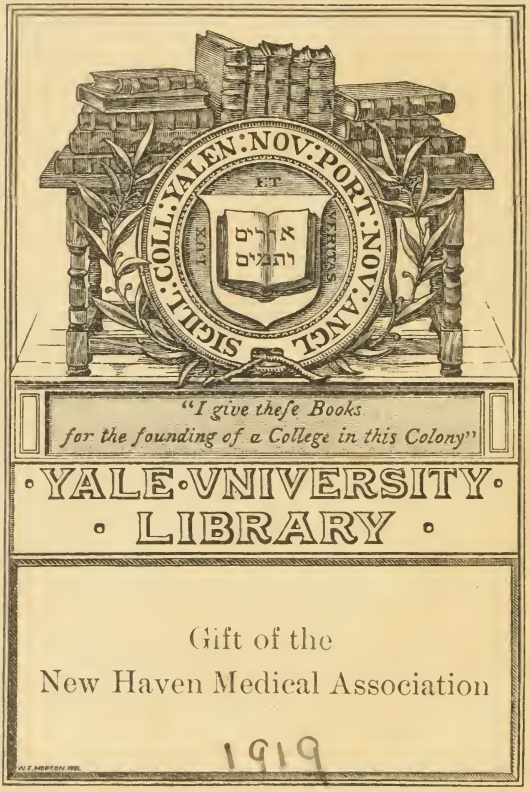


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A

# TREATISE

ON THE

# DISEASES AND SPECIAL HYGIÈNE

OF

# FEMALES.

## BY COLOMBAT DE L'ISÈRE.

TRANSLATED FROM THE FRENCH, WITH ADDITIONS.

BY CHARLES D. MEIGS, M. D.

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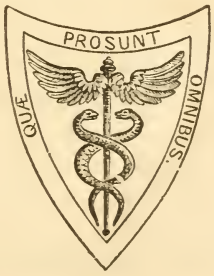
of the Philad. Med. Society; and
Physician to the Lying-in Department of the Penn. Hospital.

WITH WOOD CUT ILLUSTRATIONS.

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# TO R. LA ROCHE, M.D.

My dear Friend—

I have translated the very learned work of Mons. Colombat de L'Isère, and have added to it, in the form of notes, printed within brackets in the body of the text, about one hundred pages of original matter, constituting nearly a seventh part of the volume. I dedicate my labour to you; and I beg you to accept even this small offering to a friendship which is, and has been for many years, a large part of my happiness.

You, who know what a hurried and toilsome life I lead, will, on that account, perhaps as well as out of your constant grace and goodness to me, be ready to overlook such faults of style, and such typographical errors, as have crept into the pages; the more especially, seeing that I have written them out, corrected the proofs, and revised them, for the most part, after midnight, while engaged in practice, and during my course of Lectures at the college: I say for the most part, since my son, Dr. Meigs, has assisted me in a portion of the translation. These excuses for faults, probably the critical public will not accept: If you should accept them, however, I shall rest under the hope that they also will admit them, and readily acknowledge the good service I have done in laying before them so excellent a treatise. Mons. Colombat, by his elaborate and judicious collation of authorities, of whom more than one thousand are here cited, on topics relative to the objects of the treatise, has produced a complete exposition of the opinions and practical methods of the celebrated practitioners of ancient and modern times; and his work comprises a body of knowledge most important in this country. I cannot, therefore, but hope that I may even be favourably received by our brethren, who now enjoy the benefits of M. C.'s enormous toil.

I refer you to M. Colombat's introductory pages for a statement of his motives and his method as to this work—trusting that you will find in it the plan of a capital performance, which, as the perusal of his pages may serve to show, has been fully carried out.

As a text and table book for the student and practitioner, I do not think it has an equal in its department.

As to the materials that I have contributed, I hope you will give your approbation to the notices on the Hæmatological Disorders, and also to my remarks upon Puerperal Fever, concerning which many vague, incompetent and unsettled notions seem to prevail on both sides of the Atlantic. I confess myself as wholly belonging to the party of the Gordons and Heys, who have been so strenuous in their advocacy of a sound pathology and therapeia of the terrible disease in question. You will see that in some places I disagree with M. Colombat, and even enter my protest against his views; but I can never, even under such circumstances, feel other sentiments than those of a profound respect for an author who has effected so much.

In one of the pages of his Hygiène, M. C. says that women are not, by their nature and position, fitted to shine in the walks of literature, nor to toil for a scientific reputation, which men, even, cannot acquire but at the expense of their health and their happiness. Alas! I am grieved to learn that the estimable author of the Treatise presents, in his own person, the confirmation of his assertion; and that his ruined health may be traced to the untiring zeal with which he has pursued "the bubble reputation," and a more solid advantage, to wit, a consciousness of having done a good work for his day and generation. Join with me in sincere wishes that it may please the Divine Providence to restore his health, and that he may again be able to exert his inexhaustible patience, skill and probity, in behalf of an art which such talents are well qualified to illustrate and adorn.

Farewell, my dear friend, and believe that I am, always,

Your grateful and affectionate

CH. D. MEIGS.

# INTRODUCTION.

Medicina non ingenii humani partus est,
Sed temporis filia. BAGLIVI.

In obedience to the unchangeable law of nature, and in fulfilment of the common destiny of organic beings, the female, like the male, lives under subjection to the various revolutions of existence; like him she is born, grows up, becomes feeble and perishes; like him she passes through all her phases, and attains the fatal term, after having been constantly under the influences of the varied causes that are capable of affecting the health of the body. But although both sexes are alike exposed to a variety of maladies, the number of ills that overwhelm them, is not alike, for to the too numerous evils which woman participates, as a common lot with man, nature has superadded all those that take their rise in the superior excitability of her nervous system, and in those painful and stormy functions which prepare her for the power, or for the act of reproduction.

If it be true, as Bischat says, that lesions are most frequent in parts where action is greatest, if each organ is liable to be affected in the direct ratio of its degree of activity, there is no occasion for us to be surprised at the frequency and variety of the maladies to which the womb is subject. The extreme sensibility of that viscus, its physiological importance, its peculiar irritability, and especially its more or less intimate sympathetic connection with other parts of the body, render it a centre of action, which in the sex seems, in a measure, to domineer over the whole economy, and form the principal basis upon which the edifice of the organization rests. It is easy, from what we have just said, to explain why the vital lesions of the womb and its appendages rarely exhibit themselves at the two extremes of existence, but are very frequent at the season of the cessation of the menses, and especially throughout the whole term of years during which the genital organs are subject to periodical states of excitation, as well as to other excitements of various kinds.

All these disorders, the number of which Democritus exaggerated in his letter to Hippocrates, in which he says "*Uterus sexcentarum, ærumnarum in mulieribus causa,*" all these disorders are much better understood in modern than they were in ancient times. Our ideas in regard to their nature, causes and treatment, are more precise in the present age, because in their search after truth, the medical men of the present period are guided by a more rigorous analysis of symptoms, and have liberated themselves from the rusty chains of the doctrines of the ancients, by embracing the sources of positive knowledge found in the sciences of physics, chemistry, and pathological anatomy.

Notwithstanding the whole circle of diseased conditions is comprised within the domain of medicine, and though it is the bounden duty of the physician to consecrate his studies and meditations to the discovery of prophylactic and therapeutical methods that may serve to prevent them all, or conduct them with greater or less celerity to a radical cure, they cannot all be equally the objects of his profound research; they cannot all alike exercise his talent for investigation; he must direct his attention especially to those which, like most of the diseases of the womb, indeed, have been imperfectly studied, and are in some sort known only by their disastrous effects.

In spite of the progress of the human mind, and the numerous conquests that have been made in every department of medical science, there is much still to be said, and a great deal to be done, and a brilliant task remains to be fulfilled. *Multum restat adhuc operis, multumque restabit, nec ulli nato post mille sæcula, præcludetur occasio aliquid adjiciendi.* Seneca, lib. i. epist. lxiv.

If, on the one hand, we reflect upon the real improvements in the medico-chirurgical therapeutics of the diseases of the womb, which have lately been introduced by the new methods of diagnosis; and, on the other hand, consider that all the treatises upon diseases of women are in several regards incomplete, or, at least, far from being up to the level of the times, we shall be able to appreciate the usefulness, and even the necessity of a work that may contain, although within a narrow compass, every thing relating to this interesting subject. It is with the hope of filling up this vacuum, and with the intention of being serviceable, both to practitioners and pupils, that the present treatise is published; a treatise which comprises an account of the physiology, the surgical anatomy, pathology, therapeutics, operative medicine and hygiene, of the genito-mammary organs of the sex.

We have been aware of the extent and difficulty of our enterprise. In venturing to undertake it, notwithstanding the numerous difficulties in our path, we have been influenced less by any confidence in our own ability, than by the attraction of the powerful interest of a subject, to which we have, during the last ten years, consecrated a major portion of our studies and researches.*

The division we have adopted, is founded upon the analogies observed between the maladies whose history is comprised within our plan: with a view to facilitate the study of them, and particularly with the design of grouping and approximating them as closely as possible, in the natural order they ought to occupy in any general system of pathology, we have divided them into six sections, to wit: 1. *lesions of form;* 2. *lesions of situation;* 3. *physical lesions;* 4. *vital lesions;* 5. *lesions of the functions;* 6. *lesions relative to reproduction.*

In the first section, which comprises all the primitive and the accidental deformities, we have entered more into detail than any of our predecessors, and endeavoured more distinctly to point out the various lesions connected with the coherence, imperforation, obliteration, narrowness, obturation, and all the different kinds of genito-urinary occlusion in the female. After relating and criticizing a great number of curious cases, and after having indicated all the diagnostic and therapeutical methods appropriate to these different lesions, we pointed out a very simple mode of perforating the *membrana hymen*, at the same time preserving it as far as possible, on account of the moral importance attached to its existence, and allowing of a gradual discharge of the menstrual products accumulated within the womb, and avoiding as completely as possible, the pernicious effects of air, when introduced into the cavity of the viscus. We have also proposed a new method of curing congenital narrowness of the vagina, and have given a figure of a cutting thimble, and a knife with a very convex edge, for separating the coherent sides of the vagina.

In the second section we have, in considerable detail, treated of the various prolapsions of the womb; and founding our opinions upon a great number of observed cases, we have pointed out in a more complete manner, the advantages and disadvantages of the various kinds

* Having been resident surgeon of the Maison de Santé, of the Rue de Valois du Roule, specially appropriated to the medico-chirurgical treatment of the diseases of women; and having, for a long time, attended the learned clinics of Dupuytren, and of Messrs. Lisfranc and Récamier, &c., we have enjoyed opportunities of collecting a great number of cases of disorders of the womb, and its appendages, which we made the subjects of a memoir in the year 1828.

of pessaries in use, and of other palliative and curative measures scarcely treated of by other authors on the diseases of women. We have, likewise, made efforts to omit nothing important relative to the deviations, the incurvations, the inversion, elevation and immobility of the uterus; the different hernias of the organ, as well as of the ovaria; the prolapsus of the lining membrane, and the invagination of the vagina; in fine, the prolapsus and thickening of the lining membrane of the urethra; while the vulvar and vaginal cystoceles and enteroceles have been particularly the objects of our close attention.

In the third section, which comprises all the solutions of continuity, the contusions, the wounds and lacerations; the ruptures of the vulva, of the perineum, the vagina, and the womb; the contusions and wounds of the breast, and in fine, the introduction of foreign bodies into the genital cavities, we have proposed various instruments to facilitate and ensure the surgical operations required by these lesions, especially the vaginal fistulas.

In the fourth section, which alone consists of near *two hundred* pages, and in which are collected the different phlegmasias, acute and chronic, superficial or deep-seated; the transformations, the degenerations and all the morbid productions of the vulva, the vagina, the uterus, the ovaries and the mammæ, we have made known several instruments of our own invention, for the surgical treatment of the polypous tumours and cancerous affections of these organs. For the purpose of facilitating a comparison and impartial judgment of the measures we have proposed, we have mentioned and described with equal fidelity, most of those that have been employed by other medical men; and we were prevented from giving figures along with the descriptions of the operative proceedings, merely by the consideration that most of them are already of no recent date, and, therefore, generally known.

In the fifth section, not only have we endeavoured to forget nothing relating to the functional lesions and the neuroses peculiar to females, but we have advanced some new ideas on the causes, the diagnosis and treatment of uterine hæmorrhage, amenorrhœa, chlorosis, nymphomania and hysteria.

We pass in silence by the sixth section, which figures in our synoptical table of the diseases of women, because it comprises those lesions that are relative to reproduction, which do not enter into the plan of the present work, and which, moreover, are of sufficient importance to induce us to consecrate to them a special Treatise, wholly independent of the present one.

To complete our prefatory sketch of the plan of this volume, let us remark, that previously to entering properly upon our task, we have given, 1. Four chapters, comprising the history of the physical, moral and physiological changes that occur in women at different periods of life. 2. The varieties of conformation; the surgical anatomy of the sexual organs, and the sympathies of the womb. 3. The different methods of exploration of the genitalia, and the history of the speculum uteri. 4. The general causes and a synoptical table of the diseases of females. It should be likewise observed, that our anatomical and physiological details are confined to considerations applicable directly to pathology and therapeutics. Under the conviction that all epochs and all nations are tributary to medicine, and that to shut up this noble science within the narrow boundaries of an age or a nation, is to do it injustice, we have neglected none of the materials furnished by antiquity, by the middle ages, and by cotemporary medicine of all countries. It will be perceived, that in stating a variety of opinions, of experiments, and of curious cases, scattered throughout many volumes, numerous collections, and French and foreign journals, we have scrupulously quoted the sources whence they were obtained.* Lastly, in order to render our work as complete as possible, we have brought it to a conclusion by a long chapter on the special hygiene of the female; and hoping thereby to secure the better attention of the reader, and especially to lessen the dryness of the descriptions, we have intercalated throughout the whole extent of the work, historical facts and many curious and interesting cases.

Notwithstanding all our efforts to succeed and leave no gap unoccupied, we are far from supposing this treatise to be equal to our wishes: that is to say, a book in which nothing is wanting; where nothing is in excess; and where every thing is in its proper place. Should a benevolent criticism point out the errors and omissions of our work, we shall be flattered by it, and shall the more gratefully receive the advice of the learned, especially as we are resolved to profit by any good counsel, even should it be dictated by envy, supposing us sufficiently fortunate to awaken such a feeling.

May our intentions be properly estimated, and may this work obtain the approbation of our readers!

"Quæso veniam non laudem."

* The extent of our researches will be understood when it is known that we have cited above one thousand authors, an alphabetical list of whom is given, with a view to facilitate the history and literary study of the diseases of women.

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A

# TREATISE

ON THE

# DISEASES OF FEMALES.

## CHAPTER I.

HISTORY OF THE PHYSICAL, MORAL AND PHYSIOLOGICAL CHANGES WHICH TAKE PLACE IN FEMALES AT THE PRINCIPAL EPOCHS OF LIFE.

Feeble and sensitive at birth, and destined by nature to give us existence and to preserve us afterwards by means of her tender and watchful care, woman, the most faithful companion of man, may be regarded as the very complement of the benefits bestowed upon us by the Divine Being; as an object fitted to excite our highest interest, and presenting to the philosopher, as well as to the physician, a vast field of contemplation.

What subject, indeed, is more worthy of our attentive meditation than the series of changes, physical, moral and physiological, that accompany every stage of woman's existence! By a long succession of modifications and revolutions, she discloses all the phases of her constitution. In infancy she differs slightly from the male, in whose pleasures and amusements she participates, as well as in his dispositions and tastes, his inconstancy and vivacity. At that early period, ignorant of her own sex, ignorant, so to speak, of her own nature, the blush of modesty does not mantle on her cheek, and her eyes, which reveal no passions, seem to seek only what has reference to her real wants.

Although at this early epoch her body is but a sketch of the forms it is destined to assume at a later period, she always retains, even after her entire development, some touch of the softness and delicacy peculiar to childhood, and does not depart so widely as her playmate from the *idea* of her original constitution.

The reproductive faculty divides the life of the female into three very distinct periods or stages. In the first, this property has no existence; in the second it is in full activity, and in the third it has become null again. The duration of the first commonly decides that

of the two last periods; so as to establish the general rule that the old age of woman comes earlier in proportion as her puberty has been more precocious.

The vital forces that regulate the organic system, and the organs that constitute that system, gradually increase during the first period of life; they attain their perfect development in the second; and diminish and become extinct at the close of the third, whose term, like that of the others, may be accelerated or retarded by different accidental causes and circumstances, dependent on certain physical and moral conditions.

Upon setting out in the career of life, the two sexes exhibit nearly the same physiognomical characters and the same delicacy of organization. Their type and their character, as yet indeterminate, differ only by almost imperceptible modifications, and which it is not possible to trace out in full detail. Subject to the same functions and wants, their isolated and individual existence fails, as yet, to reveal the sympathetic relations that are in the end destined to establish between them a state of reciprocal dependence. Subjects of the same kinds of diseases, they are principally liable to the convulsive affections, and especially to inflammation of the brain, because the head, which, in infancy, has a proportional size greater than in any other age, is, in them a vital centre, towards which almost all the efforts of the organisms are directed.

The shades of difference in the sexes soon assume a more decided tone; and their peculiar characters become so much the more marked as the development of each individual is more complete and approaches more nearly to the period when, by a sudden change, nature reveals the completion of those preparations she has been silently making.

The interval betwixt the tenth year and the age of puberty is a period of transition, a sort of passage from childhood to adolescence, which appears to be the happiest era in the life of the female. Her extreme nervous mobility prevents her being too long impressed by the grave sentiments that might be fitted to interfere with her happiness. This being for young women the period of gentle pleasures and of the freest gaiety, it follows that imagination exhibits every object under the most attractive colours, and that the existence of young females is agreeably varied by a piquant freedom of action and a great mobility of tastes and affections. Exempt, at this age, from cares and troubles, they sing, they weep and laugh at the same moment; and, as their joys, so their pleasures and their grief, as well as all their other impressions, are ephemeral; they proceed along a flowery path up to the age when nature calls on them for the tribute which they owe to the species.

The young girl who, until now, was an equivocal, non-sexual creature, becomes a woman in her countenance and in all the parts of her body, in the elegance of her stature and beauty of her form, the delicacy of her features, in her constitution, in the sonorous and melodious tones of her voice, in her sensibility and affections, in her character, her inclinations, her tastes, her habits and even in her

maladies. Very soon are all the traits of resemblance between the two sexes found to be effaced. The bud newly expanded blossoms amongst the flowers, and this brilliant metamorphosis is signalized by the rosy tints of the cheeks and lips, and the perfect development which discloses the arrival of the age of puberty.

This important period, this first moment of triumph in which nature seems to renew herself, is announced by a sentiment of necessity to multiply, within, the principle of life, and by various striking and admirable phenomena which put an end to the social inertia in which the young girl had lived from the period of her birth. The sexual organs soon become a centre of fluxion; nature makes great efforts in order to establish the periodical discharge, and the whole machine experiences, in its inmost recesses, a succussion, a violent commotion, a general movement. The new energy of the womb impresses a powerful impulse upon the entire system of organs; their functions become more active; the body grows with rapidity; the various portions of the figure become more expressed, and bring out those graceful contours which belong to the tender sex alone. At the same time other important changes take place; the pelvis and the sexual organs, which were in a rudimental condition only, now acquire their full proportions; the throat rises and becomes more sensitive; the breasts become rounded and full, while they establish their correspondence of sympathy with the womb. The mons veneris comes out into complete relief, and clothes itself with a thick down, which, like a veil covering the organs of modesty, seems to announce that they are destined soon to become fitted to act the important part assigned to them by the law of nature. The meshes of the cellular [*and adipose*] tissue, becoming rapidly dilated under the influence of the uterine irradiations, soon impart to the surface of the body a voluptuous embonpoint which lends the highest splendour to the attractive beauty and freshness of youth.

The physiognomy of the young woman has now acquired a new expression; her gestures bear the stamp of her feelings; her language has become more touching and pathetic; her eyes, full of life but languishing, announce a mixture of desires and fears, of modesty and love—in fine, every thing conspires to excite, to caress and to incite.

Her tastes, her enjoyments and her inclinations are modified like the rest; her most pressing want is to experience frivolous emotions; she is passionately given to the dance, shows and company; the curiosity so natural to her sex acquires new force and activity; she devours books of romance, or more than ever fervent in devotion, is excited by the expansive passions, and particularly by religious piety, which is to her a sort of love.

At this brilliant period of life her moral, which depends upon her physical condition, undergoes great mutations. The young girl becomes more tender-hearted, more sensitive, more compassionate, and appears to attach herself to every thing about her. The new sensations of her soul make her timid in approaching the companions of her childhood; a strange trouble, a sort of restlessness, an

agitation before unknown, are the heralds of a power whose existence she does not even suspect.

The action of the new forces of vitality established within the sexual organs augments more and more, and reacts with energy upon the whole system. Under the sympathetic irradiations of the uterus the general sensibility becomes changed and even excited in a peculiar manner. A new sentiment soon gives rise to desires which, as yet, have no definite object, and to vague emotions, of an instinct that seeks some object—it knows not what. This rising want produces the impression of a touching melancholy, a charming bashfulness, whose principle is founded in ingenuous love, presaging new dispositions and announcing that the inclinations and habits of childhood are exchanged for other sentiments. The young virgin becomes timid, reserved, abstract and dreamy. She sighs less for pleasure than for happiness; the necessity of loving makes her seek solitude—and this new want, that troubles her heart and engages it wholly, becomes, if it remain unsatisfied, a source of multiplied disorders and derangements.

Various causes calculated to render the play of the vital forces more active, have the effect either of retarding or precipitating the age of puberty: thus, abundant and stimulating food and drinks, manners, habits and climate, exercise a marked influence upon this vital phenomenon. Certain moral circumstances may likewise accelerate its arrival; but the artificial maturity thus resulting always acts injuriously upon the organization: among these circumstances may be enumerated premature passions and pleasures, the arts of imitation, music, painting, the perusal of obscene romances, the inspection of lascivious pictures, the theatre and the ball-room; the bad examples and the premature libertinism, of which too many samples are unfortunately furnished in great cities. These specimens of premature puberty, the miserable consequence of too great vivacity of the imagination, are sometimes met with as early as the eighth or tenth year.

The normal puberty that is announced by the eruption of the menses, is, in our climate, not generally observed before the fifteenth or sixteenth year; but its period is different according to the region in which the subject lives. In southern countries, for example, as in Greece, Italy and Spain, under the beautiful skies of Provence or Languedoc, young girls are often found to be *grown up* at twelve or sixteen years of age; and in certain Asiatic countries, heated by a burning sun, the young women become marriageable as early as the tenth or eleventh year. In the cold latitudes, on the contrary, as in Sweden, Norway or Lapland, it is not uncommon for the women to be as late as the twentieth or twenty-fifth year before the eruption of the menses, or even still later.

In general, the crisis of puberty is more distressing for females than for males, especially for such as are endowed with a very delicate and nervous constitution, as often happens to such as lead a sedentary life, and have acquired the habits and manners appertaining to the opulent and luxurious classes.

The most important physiological phenomenon of this era con-

sists in the eruption of the catamenia, which depends upon the new mode of vitality established in the sexual organs. When nothing has occurred to interrupt the operation of the laws of the economy, the uterus, which in the little girl was quiescent and unaroused, acquires a considerable degree of activity, together with an exalted state of sensibility. The full-grown woman very soon becomes the subject of the mensual revolution, which terminates in a real crisis, and by a hæmorrhage from the womb more or less considerable, according to circumstances.

[There are very conflicting statements as to the influence of climate on puberty. In order to have a reliable authority, I addressed a note to Dr. Joseph Maria Vargas, of Caraccas, in Venezuela, requesting information from him on the subject of puberty, and the change of life in that climate. Dr. Vargas is the same gentleman who, some years since, was President of the Republic of Venezuela, and is well known for his devotion to every thing relative to philosophical pursuits: he is the author of a system of surgery in two volumes, published at Caraccas in 1842, and is professor in that university. In his answer to my note, under date of May 2d, 1844, he says: "As to the points you are desirous of ascertaining, regarding the epoch of puberty and the critical age of the women of this country, you will find adjoined my answer, (to your queries,) embodying the information of the most practical physicians of this city," and he gives the following table:—

First.—Common epoch of puberty.

| | |
|---|---|
| In 70 per cent. menstruation from | 13 to 15 |
| " 10 " " " " | 11 to 12 |
| in very rare cases at | 10 |
| " 20 " " " " | 16 to 18 |
| very rare cases | 19 to 20 |
| and even | 21 |
| Second.— Critical age common from | 45 to 48 |
| In a few cases | 40 to 44 |
| In a few cases | 49 to 50 |
| In very rare cases | 38 to 40 |
| In very rare cases | 51 to 53 |

Dr. Vargas informs me that precocious menstruation is more common in the white than in the negro race.

In Lee's *Lectures on Midwifery*, p. 44, is a statement of the epoch at Antigua, where Dr. Nicholson never met with it before the fourteenth year. Dr. Lee doubts whether intertropical women menstruate earlier than others. The reader is referred to Lee's *Fourth Lecture* for a statement of the conflicting reports upon the influence of climate in precipitating or procrastinating the eruption of the catamenia, and also to Raciborski.

The period of eruption in 1781 women of England and France, which I

have calculated from the tables of Brierre de Boismont (*De la Menstruation*, &c., Paris, 1842, p. 39,) and Lee's Lecture, was as follows:—

| | | | |
|---|---|---|---|
| At 11 years in | 110 | At 16 " " | 284 |
| " 12 " " | 144 | " 18 " " | 144 |
| " 13 " " | 256 | " 19 " " | 72 |
| " 14 " " | 360 | " 20 " " | 40—M.] |
| " 15 " " | 366 | | |

## PHENOMENA OF MENSTRUATION.

Menstruation is a distinctive characteristic of the human species, for, except at the coupling season, no other animal is subject to a periodical discharge from the sexual organ.

In some females the first eruption of the menses takes place suddenly, and without the least premonitory sign. The blood, by accumulating within the organ destined at some future period to contain the embryo, by its superabundant quantity, opens an easy way of escape by a before unaccustomed route.

[I do not perceive the necessity or force of this remark, if he refers to the cavity, since it is certain that a drop of fluid, whether of blood or any other liquor, can never have the least difficulty in escaping from the cavity of the fundus and body of the womb, along the canal of the cervix, which is always sufficiently open to admit of the introduction of a medium bougie, even to the fundus uteri.—M.]

In the major part of the cases, however, the first mensual hæmorrhage is both preceded and accompanied by various inconvenient circumstances. A real febrile movement is set up; the pulse is full, irregular, bounding; a considerable heat is felt in the genitalia, which become tumid, painful and sensitive, occurrences which are also observable with regard to the mammary glands. The young girl complains of general plethora, cephalalgia, suffocation, colic and other symptoms, the signs of uterine congestion, such as pain in the loins, with a sense of weight in the thighs and in the pubic region. In some cases spasmodic cough is noticed, and the sleep is disturbed by palpitations and wearisome dreams. At this period, the young adolescent becomes sad and melancholy, and gives herself up to indulgence in reverie, the cause of which she does not understand; she is now more susceptible, impressionable, and becomes subject to violent emotion from very slight causes. She grows more irascible, often has queer appetites, and is capricious—her imagination is more elevated, and a secret instinct gives her the presentiment of that important destiny that nature calls her to fulfil.

At length the flow makes its appearance, preceded and followed by a muco-serous discharge; it is in inconsiderable quantity, rarely lasts more than two or three days, and at first recurs at irregular periods, but acquires precision after the fourth or fifth return.

[There are a great many persons to be met with who become regular at first, and who continue so throughout the whole period of the menstrual life.—M.]

In women, already regular, the discharge is gentle or moderate, but without any interruption from beginning to end. On the first day it is scarcely a *show*, but increases progressively until the third; from which time it gradually lessens until the fifth or sixth, more or less. By this time great relief is obtained, all the precursory symptoms have vanished, and nothing remains but a feeling of languor, which makes her seek repose, not exercise—the countenance has a languishing look, the cheeks are pale, the eyes are less bright, and have a dark palpebral areola, the breasts continue to be painful, the odour of the breath and perspiration is strong, and there is in the genital parts a sense of heat, and pruritus which provoke the aphrodisiac sense.

[M. Colombat has, in the above paragraph, painted, in colours, perhaps, a little too strong, the features of a healthful menstruation. I am assured, by many persons in the various classes of society, that the menstrual act is, in them at least, unattended by such very marked signs of constitutional consent as M. C. would seem to believe. Many of them have assured me, during more than thirty years, that for them the catamenia have never been the occasion of the least trouble or the smallest modification of their health. The flow begins, continues and ends without sensation or inconvenience, except what arises from the needful cares as to cleanliness of the person. I am very much inclined to think, seeing that so many millions of women exist who never make the least complaint of their menstruæ, it is only in particular cases that the reader should adopt M. Colombat's description, and not in all cases.—M.]

There are women who, though always very regular, are quite ill at each menstrual revolution—such persons are generally unwell and suffering at the approach of the menses, and some of them suffer from various accidental affections, as colic, headache, vapours, spasms, hysterics, convulsions, and even epilepsy. In others the digestive functions become deranged and painful. The patient feels debilitated, and the memory is weakened: all women at this time readily take cold, are soon fatigued, and as they are generally more sensitive to all sorts of impressions, they become more susceptible, sad, timid, irascible, and subject to caprices that claim not indulgence only, but the tenderest commiseration.

The relief that follows the menstrual travail is a sure index of the regularity of this function, which in general recurs, when well established, at fixed periods of twenty-eight or thirty days, and in this regard, in some females, seems to correspond with the phases of the moon. This opinion, being generally entertained among the vulgar, has been reduced to a proverb by the poet:—

"Luna vetus vetulas, juvenes nova luna repurgat."

Instead of having any reference to the lunar month, Haller and some other authors suppose rather that the menses coincide with the solar months. Gall, whilst not admitting a sidereal influence, believes that the discharge will be found generally to take place at about the same period of time, and that there are certain weeks in each month in which no women are menstruating. He divides the menstrual epochs into two classes—comprising the first eight days of the first and second fortnights, that is to say, the first and third weeks: if there be women who, from accidental causes, become *unwell* during the second and fourth weeks, he pretends that, after some months, they will return under obedience to the general law; but Dr. Gall furnishes no explanation of the cause of her general menstruation at two different epochs. Many women are met with who, in all other respects, are in fine health, yet in whom the periodical returns anticipate as regards the lunar months. Thus certain nervous women, especially such as are of an erotic temperament, are found to menstruate every fortnight, while others, of an opposite constitution, are subject to the returns only every six weeks, or even only every two months. Linnæus says that he saw women in Lapland whose discharges occurred only once a year. In his Treatise on Diseases of the Womb, Dr. Pauly relates that M. Lisfranc has met with women who were regular every fifth or sixth month, or only every fourth and even sixth year. Some of these women were habitually disordered, and others enjoyed perfect health—in the first case the indications would be the same as for persons who had never yet menstruated; but we shall return to this subject in treating of the diseases of menstruation.

[I see no propriety in citing such cases as these as samples of menstruation. I should, in all such instances, be inclined to regard the flow as a malady merely, and not as the result of the regular exercise of a normal physiological function. A lady, for example, informed me yesterday, (March 14, 1844,) that she was regular at thirteen, and, after giving birth to twelve children, lost her catamenia definitively at 35 ætat.; after having seen nothing for seven years, she had a very copious menstruation. She has had uninterrupted health all her life long. I could not regard the case in question otherwise than as an incident in her history having probably no relation to the menstrual function. The case mentioned by M. Colombat below, is, however, of a different character.—M.]

The Duchess of D., celebrated as much for her wit as for her admirable literary talents, assured me that, having ceased to menstruate at thirty-five, she supposed she had reached her *critical* age; the more especially as she became marriageable at an early age; but at about her forty-fifth year, that is to say, after ten years of menstrual suppression, she again became regular. From that time the duchess, who is at present fifty-three years of age, has been as regular as she was in her youth.

The menstrual revolution has been attributed to a variety of causes. Aristotle, Mead, Werlhoff, Vanhelmont, Roussel and some other

authors supposed it to depend upon lunar influence; Pliny thought it was the excretion of a noxious substance; Galen, Astruc, Simpson and Lobstein could perceive in it nothing more than the expulsion of a superfluous quantity of blood. Frederick Hoffmann supposed the menstrual flux to be the fruit of a mechanical action. He says that women generate more blood than they need, in consequence of the slowness of their circulation and the small amount of their perspiration. Hence arise venous congestions and spasms in the extreme vessels. The blood that is refused admittance into the vessels that are affected with spasmodic constriction must escape into the womb, whose particular structure favours this congestion. M. Osiander and some other German physicians allow that menstruation takes place on account of the excess of carbon and azote contained in the blood of the womb. Paracelsus, Silvius and De Graff regarded it as the product of a fermentative principle. Clifton avers that it depends upon the weakness of the venous paries, as related to the perpendicular effort of the fluid. Emett regarded it as consequent upon a state of erection; Lecat as an amorous phlogosis; Stahl and Professor Dugés think that it takes place under an *irritamentum*, a peculiar *molimen;* and, lastly, the position of the uterus and certain arrangements of its blood-vessels have been assigned as the causes of the menstrual discharge.

[I feel compelled, by a sense of duty to the reader, to make some remarks upon the causes of menstruation additional to those cited by M. Colombat, and which, to the merest tyro, must appear unsatisfactory. It seems to be universally admitted that the substantial causes of menstruation ought to be sought for in a condition of the female ovaries, which are regarded as the proper seats of the reproductive faculty, not only as being the points in which the aphrodisiac faculty most essentially dwells, but as influencing the female constitution in the remarkable manner known to be coincident with the development of those bodies and also consequent upon the abstraction of their vital energies after the lapse of years. In the male the full unfolding of the size, form and power of the testes is the sign and guarantee of the reproductive force, and the same is true of the ovary of the female, in whom, up to the age of puberty, these organs are known to be incomplete.

The total absence, by congenital deformity or by ablation or by diseased destruction, of both ovaries, is known to be attended with loss of the menstrual power, as well as of the erotic principle. The atrophy of the same organs, by the progress of age, equally involves the abolition of the menstrual force. If these propositions be true, it follows that the seat of the menstrual force must be conceded to exist in the ovaries. But the question as to how that force comes to be exerted upon the constitution in a manner so surprising, in the regular, equable and necessary exercise of it, was unexplained until the simultaneous development of the new theory of menstruation by MM. Negrier and Gendrin in France, and Lee in England. This is not the place to settle, even were it in my power, the claims of the rivals for the

honour of originating this new philosophy. The reader who takes interest in that point is referred to M. Negrier's reclamation against M. Gendrin, in his *Recherches Anat. et Physiolog. sur les Ovaires*, Paris, 1840, 8vo.; and to Lee's *Midwifery*, and Raciborski's late work, *De la Puberté*, &c. M. N., in the preface, shows that so early as November, 1831, he read a paper upon the theory at the Medical Society of Angers, and also made it known, after considerable researches, at Paris, in 1838, to Messrs. P. Dubois, Berard, sen., Cullerier, jun., and Ollivier d'Angers. But, unfortunately for him, M. Gendrin gave a very lucid statement of the theory and of the facts which illustrate and uphold it, in his *Traité Philos. de Med. Pratique*, 1838. Dr. Robert Lee, of London, whose rising fame seems destined to eclipse all his English brethren, also had perceived the truths of nature upon this point as early as 1831. T. L. G. Bischoff, in his *Entwickelungsgeschicte der Saugthierre und des Menschen*, Leipzig, 1842, and which has been translated by M. Jourdan and published in the *Encyclopedie Anatomique*, 1843, speaks of this new doctrine as follows: "At first I opposed this doctrine, for it seemed to me improbable that, after so many researches and discussions on the subject of the corpora lutea, it had not been long since examined; and because, had it been true, there must have been found corpora lutea in the numerous subjects dying during the menstrual act and examined by the anatomists. However, I have since had opportunities of examining the bodies of two women who died while menstruating, and in both of them I not only found the ovaries very turgid and gorged with blood, but I also discovered a well-marked Graafian vesicle, open, and containing a corpus luteum in the process of its development. I have also become satisfied that, if the sexual union is prevented, with animals in heat, the swollen follicles are likewise converted into a sort of corpora lutea. Lastly, since the period referred to, I have carefully examined all the ovaries I have met with of persons dying in puberty: there is always to be found a tuberculated and cicatrized surface, and, at least in many of them, traces of imperfect corpora lutea, even where there had been no antecedent conception. I look upon it as an indubitable fact, that this appearance is the result of antecedent menstruation," &c.

The most finished and complete account of the matter, however, is that which is contained in M. Negrier's work above mentioned, and in Raciborski, op. cit. M. N.'s is a full-sized octavo of 131 pages, with eleven lithographic plates, which present fifty-three figures, representing the ovaries and womb in different circumstances. He divides his work into three parts. In Part I., which is divided into four chapters, he commences, Chapter I. with an anatomical account of the ovaries, exhibiting their structure at the different periods of life, from birth to puberty. The second chapter exposes the state of the ovaries during the reproductive life of the woman. Chapter III. concerns the anatomy of the ovaries during gestation and lacta-

tion. Chapter IV. is assigned to the exposition of their condition in women who have finally ceased to menstruate.

In Part II. M. N. advances certain physiological considerations and deductions from the facts previously cited,—while the third and last part is devoted to points relative to the physiological and pathological anatomy of the organs in question.

The result of his researches in Part I. is given in a *resumé*, at p. 12, as follows. The parenchyma (*stroma*) of the ovary of a new-born child is homogeneous. In the first year it is found to contain an uncertain number of miliary granulations, as large as poppy seeds, each of which is surrounded by a whitish zone. At the third year and forwards to the sixth, the ovaries increase in size, but undergo no change of shape. A small globule, containing a drop of serous fluid, is found glued to one of the granules, whose white zone has sensibly diminished in size. These globules, which are rarely larger than a millet seed, have pretty thick walls, but they may be easily crushed between the fingers. The globule or lodge contains a vesicle comprised in two concentric membranes that are contiguous. At about the tenth year some of the globules enlarge, but a grayish pulpy matter is deposited betwixt the outer and inner concentric membranes, so that the vesicle that is innermost is compressed and becomes wrinkled. These vesicles M. Negrier denominates (*bourses grises*) gray pouches. The gray pulp of the pouches gradually changes to a yellowish colour, and it is then the first signs of puberty become manifest in the girl. In infancy and childhood the vesicles are found nearest the adherent margin of the ovary, after which they are found to be nearer to the free margin of the organ, and when they begin to form gray pouches, they are in contact with the indusium of the gland, but there is no sign of cicatrices upon the surface of the ovarium. During this entire period the womb has remained, so to speak, stationary, and its mutations of size have no comparison with those that take place in the beforementioned body.

In Chapter II. M. Negrier shows that, whenever an opportunity has been enjoyed of examining the condition of the ovaries in women who have died suddenly while menstruating, there has been always observed a point on the ovarian surface which appears to have been ruptured or lacerated. In such as have died a long time after the cessation or suspension of the menses, no trace of *recent* rupture could be found.

Dr. Gendrin gives, at p. 18, vol. ii., his first case, which occurred in 1828; and Dr. Robert Lee (*London Medical Gazette*, 1842–3, p. 165, vide also Lee's *Theory and Practice of Midwifery*, p. 47, Phila., 1844), relates a case that he observed on the 11th of March, 1831, with others subsequently.

The frequent, if not invariable, occurrence of a rupture of the Graafian vesicle, coincidently with the menstrual act, may be taken, one would think, as tenable grounds for the belief that this development and rupture are suffi-

cient causes of the phenomena presented by that great and most important sexual function. The discovery of the vesicle of the bird's egg, by Purkinje, and the elucidation of the nature of the human ovum, by Baer Coste, Wharton Jones, Barry and others, throw new light upon this topic. It is fully understood that De Graaf's vesicle is but the organ, the ovisac, which contains the egg of the mammal, a microscopic point, consisting of a yolk with its germinal vesicle and germinal spot, which is kept steady in the centre or moved to the surface of the cyst or cell in which it exists, by a granular membrane, like the chalaze of the hen's egg, and which has received from M. Barry the name of retinacula, the existence of which is denied by Bischoff.

Barry has shown, and any one who possesses a good microscope can observe for himself, that the ovary contains an immense number of granules, which are the nuclei, or nucleoli, of the germinal cell. They amount to unknown numbers, millions, perhaps, and are of exceeding minuteness; but, in passing from the state of nucleus to that of ovisac, they cannot fail to compress the ovarian stroma, and dispart its cellular tela, its vessels and nerves; in like manner as the sac which incloses the rudimental tooth, presses aside and disparts the structure of the gum in a young child, producing upon its constitution various effects, from the very slightest manifest uneasiness to the most fatal spasm, convulsion, cholera, &c. &c.

But it is universally admitted that the human female, unlike the other mammals, has no stated season of reproductiveness; that she is liable to fecundation at any period of her reproductive age. Hence it appears clearly that a necessity exists for her evolving and perfecting the germina of her offspring, throughout the entire series of years from puberty until the arrival of her critical age. Supposing her to be perfectly regular, and never to become pregnant, she would, in the course of thirty years, have nearly four hundred menstruations. If, now, each menstruation is to be taken as the sign of her constitutional aptitude for fecundation, it is a just inference that such aptitude must bear a close relation to the perfectness of the germ-cell or ovulum of the Graafian vesicle. Let it be admitted, then, that a vesicle is always found to have been discharged in the cases of women dying suddenly in the menstrual act, and it does not seem to be a violent wresting of the facts to apply them to the solution of this great problem, the cause of menstruation. MM. Gendrin, Negrier, Lee, Raciborski and Bischoff all concur in the statement that in menstruation the ovarian vesicle is burst, with loss of the ovula and granules or retinacula—that the ovarian stroma and indusium are highly injected and vascular—that a similar condition exists in the tube and womb, and thus is sufficiently established a hyperæmic status of the internal genitals, to account for the entire local plethora or uterine hyperæmia, whose result is the menstrual discharge. Here, at last, we see established the doctrine of a local plethora as a cause of menstruation, and that plethora resting on a sure physiological basis—the regular periodical development, to wit, of the Graafian vesicle with its contents.

The question as to why it should have so exact a periodical character, is no more difficult of solution than that of the stated periods of eruption of the first and second dentition, the growth and fall of the hair or the beard, &c., or the periodical affections of the sphincters under a regularly operating law in physiology.

In adopting the views of the writers whose names have been so repeatedly mentioned, I find abundant explanations of the poverty of our resources in the use of the mere menagoga, and in the efficacy of the treatment of menstrual disorders, by a regard fixed upon the constitution, whose disorders are fully sufficient to impair the ovarian travail, by suspending the development of the vesicles, under disease of other organs, or of the reproductive system itself, or by precipitating and rendering dangerous an irritamentum whose gentle and normal influences ought to produce no pain nor be attended by the least interruption.

Dr. M. A. Raciborski, of Paris, has put forth, in the present year, 1844, a small volume already mentioned, upon the subject of menstruation, of the very highest interest. It is entitled *De la Puberté et de l'Age Critique chez la Femme, au point de Vue Physiologique, Hygienique et Medicale, et de la Ponte Periodique chez la Femme et les Mammifères.* M. R. shows that the development of the Graafian vesicle ought to be considered not merely as the cause of menstruation, but as menstruation itself; and that a woman may regularly develop her ova and be liable to conceive even when she may have never had the outward and visible signs of the catamenia. After having related certain cases of very late occurrence of the catamenia, he says, at p. 89: "These facts seem only to confirm what we shall, in a subsequent page, fully establish, to wit, that the menstrual hæmorrhage is but a secondary phenomenon in menstruation, properly so called, and that the capital phenomenon in this function consists in the maturation and the periodical discharge of the ova or the '*ponte*,' (laying.) There are women in whom it is confined to this act alone, and we have the records of cases in which women have given birth to several children without having ever seen the menses."

Such is the short statement I have thought proper to add to M. Colombat's views of the causes of menstruation. But I should gladly refer the reader to Negrier, to Gendrin, to Robert Lee and Raciborski.—M.]

The immortal Bichat, in his Anatom. Gen., says that the blood that flows in a menstruation is of the same nature with that which escapes in any other active hæmorrhage. It proceeds principally from the womb and escapes from the capillaries on the mucous surface, where, incited by a lively irritation, it is conducted into unaccustomed channels and expelled by a process of exhalation.

In his anatomical researches upon the position of the glands and their action, Theoph. de Bordeu gives out nearly the same opinion. "The womb and the vagina effect an excretion of blood almost as pure in common as that which flows in the vessels. This excretion comes every month or nearly so; it begins about the age of twelve or fifteen years and terminates towards the fortieth or fiftieth, and is generally

suspended during suckling and under certain diseases that occasion discharges, whether sanguine or of other character, &c. The excretion of the womb takes place as it does in all the other glands—that we have denominated active glands. The organ *awakes*, (*erigitur*,) and, by the turns (*replis*) which it makes upon itself, it *invites* the blood and *rejects* it outwards by the same mechanism we have elsewhere explained. Each organ acting in its turn, that of the womb recurs only from month to month. Why? This is what we are ignorant of—and what we seek to know."

In women the menses may be regarded as the aurora and companions of puberty. In fact, though there be samples wherein a sanguine discharge from the vulva may have been noticed in children of from two to six years old, or in women who have attained to an advanced age, true menstruation does not commence until the period when the young girl is fitted to become a mother—and ceases when she loses, together with her charms, the faculty of conceiving in the womb.* This moment of sexual dissolution generally arrives about the fortieth or fiftieth year, earlier or later.

Menstruation, then, is a physiological function which characterizes the period during which the female is endowed with the reproductive faculty. From the first appearance of the menses until the term when they are to cease by the lapse of years, her health, her freshness and her beauty depend upon the regular return of this sanguine evacuation.† Those who experience no menstrual revolution are rarely fruitful, and its sudden suppression in youth and in health is one of the least deceptive signs of conception.

When the periodical evacuation meets with obstacles, and nature makes vain efforts to establish it, all the powers of life diminish or become perverted; and trouble and disorder among the functions throw a speedy veil over the brilliancy of the maiden. A crowd of symptoms often comes to aggravate this dull languor, the respiration becomes difficult, the circulation languishes, the tastes and appetite are perverted, depraved, the feet and limbs begin to swell, the eyelids to be tumid, the face is bloated, and acquires a sallow hue, or a greenish or chalky tint; at length painful palpitations, frequent faint-

* Professor Osiander, of Gœttingen, has noted that of 137 women, 9 were regular at 12 ætat., 8 at 13, 21 at 14, 32 at 15, 24 at 16, 11 at 17, 18 at 18, 10 at 19, 8 at 20, and 1 at 21, and one other at 24. From this statistical view of menstruation it is seen that the mean age for the apparition is between fifteen and sixteen years.

† We know a lady thirty years of age who has never been regulated, and who, nevertheless, enjoys perfect health. She has had no children, notwithstanding that she has been, since her eighteenth year, united to a husband who is young and in vigorous health. The sister of this lady is also married and has never been regulated; but she has had one child—a healthy one. The annals of the science furnish many similar examples. Rondellet, chancellor of the faculty at Montpellier, speaks of a woman who had twelve children, and Joubert, his pupil and successor, speaks of one who gave birth to eighteen children, though neither of these women had menstruated. Zacchias and Foderé have also related similar observations. We may add that the periodical discharge furnishes, in its history, numerous examples of anomalies and deviations; but all these irregularities and menstrual aberrations do not impair the validity of the general rule, for, being the fruits of some disorder of the womb, they constitute real cases of disease. [Madame N——t informed me that she had given birth to ten children, and that she had never menstruated since her marriage, having always become pregnant before the return of her courses after a confinement.—M.]

ings, a deep-felt anxiety, distress, weakness of the senses, a certain indolency, and a weariness which renders every motion disagreeable —come to obscure this sad and afflicting picture.

During the entire period of the menstrual life, women are exposed to the attack of a great variety of maladies, to most of which they are not liable antecedently to the age of puberty; for they draw their sources from irregular menstruation, or from the sympathetic reaction of the womb. Among the disorders of this class, without comprising such as are connected with pregnancy, we must cite the cases of hysteria, catalepsy, convulsions, spasmodic diseases, cardialgia, dyspnœa, chlorosis and leucorrhœa; to which may be added consumption, and various forms of hæmorrhage, as epistaxis, hæmoptoe, hæmatemesis, and a variety of febrile affections unnecessary to detail in this place.

The nature and properties of the blood of the menses have been, from the remotest antiquity, the object of a crowd of popular prejudices and scientific errors, the absurdity of which can hardly be conceived of. According to Aristotle, this kind of blood is as pure as that which flows from any wound. Hippocrates compares it with that of a slaughtered victim. *Sanguis autem....sicut à victimâ, si sana fuerit mulier.* Pliny, in speaking of the menstrual fluid, says, on the other hand, that it is a fatal poison, that it corrupts and decomposes urine, deprives seeds of their fecundity, destroys insects, that it blasts the garden flowers and grasses, and causes fruits to fall from their branches, &c. Nihil facile reperiatur mulierum profluvio magis monstrificum. Acescunt superventu musta, sterilescunt tactæ fruges, moriuntur insita, exuruntur hortorum germina, et fructus arborum, quibus insedere decidunt. (Lib. vii. cap. 15.)

The Lawgiver of the Hebrews goes still further when he says, "And if a man shall lie with a woman having her sickness, and shall uncover her nakedness, he hath discovered her fountain, and she hath uncovered the fountain of her blood, and both of them shall be cut off from among their people." (Lev. xx. 18.)

A number of authors, and amongst others, Columella, (*De Re rustica,*) whose eloquence and style savour so strongly of the Augustan age, Graaf, (*Mul Org. Gener.,*) Verheyen, (*Vera Histor. de Horrend. Sang.,*) the Arabians, and even some among the modern writers, have attributed dangerous qualities to the blood of the menstruæ. In perusing the histories of various nations, whether savage or civilized, we find that most of them have entertained the same prejudices, and have established customs no less barbarous than injurious to the female. At a crisis in which they ought to be the objects of the highest interest, instead of finding protection and security, they have been compelled to sequester themselves from society, and submit to the most humiliating precautions.* It appears, says Roussel,

* M. Moreau de la Sarthe, in the *Hist. Nat. de la Femme*, Tom. II. 261, also says that the Negroes, the South Sea Islanders, and the Aborigines of South America, send their females into separate huts, and keep them in a state of absolute sequestration during the whole menstrual period. The Illinois Indians punish with death their women who fail to give notice of their being affected with their periodical flux. History also informs us that by a decree of the Council of Nice, women were forbidden to enter the church while menstruating.

(*Système Physique et Moral de la Femme*,) that the male feeling himself more at liberty during this transitory crisis, in which the charms of the female are somewhat obscured by a slight shade, would profit by the interregnum thus left to him, in order to revolt and outrage her, whom, in all other circumstances, he is compelled to adore.

The opinion of Hippocrates as to the identity of the menstrual and other hæmorrhages, finds few opponents at the present day, and although there are still, especially among the common people, some prejudices as to the pernicious qualities of the menstrual fluid, the major part of the medical profession, at the present time, look upon the discharge as being equally pure with the blood of other sanguine effusions. Any differences as to its nature or smell are attributable to the changes it undergoes in the vagina. Such a decomposition of the menses may communicate properties of a more or less deleterious nature, and cause it to react upon certain fluids easy of decomposition. It is very desirable that researches more careful, and conducted without prejudice, might serve to throw light upon this long-vexed question, and dispel those injurious opinions in regard to a sex whose condition and well-being ought to be a constant care.

The quantity of blood that escapes at each period varies according to climate. Hippocrates thought that the Greek women lost twenty ounces or two cotyla at each menstruation. Galen estimated it at eighteen ounces. Haller computed it at six, eight or twelve ounces for the German women. According to Dehaen, it amounts to three ounces in England, but Smellie and Dobson suppose it to be four ounces. Pasta says it is five ounces, and Freind ten ounces. Gorter thinks that in Holland the discharge does not exceed six. Fitzgerald estimates it at fourteen or fifteen ounces for Spanish women. Astruc says that it varies from eight to ten ounces among the French women; and Baudelocque regards it as amounting only to three or four. Lastly, M. Magendie thinks it is often very great and may amount to several pounds.

Linnæus avers, in his Flora Lapponica, that the women of frozen regions, as the Samoiedes, lose but a very small quantity of blood, and that only in the summer season; and that the Greenlanders have scarcely any discharge, on account of the cold, which hinders the development of the generative faculties as it does the flowering of plants. From the foregoing, then, it is perceived that, as a general rule, the catamenia are most abundant in those countries where puberty is most early attained. But on this point there will be found considerable differences, according to the different constitutions of women; thus, the Greeks of the Archipelago, who are more precocious than the Italians, and inhabit a warmer climate, rarely lose more than three ounces of blood. It is quite certain that European women, who migrate to a hotter climate, as the West and East Indies, to live particularly at Batavia or in Java, often perish in consequence of excessive menstrual losses, and are, besides, more liable to abortions than under more temperate skies.

The difficulty of collecting the menstrual blood, and the numerous variations in the amount of the discharge, have necessarily occasioned

the differences of reports by the observers whose names we have now cited. All calculations upon this subject must be more or less faulty, and we can, therefore, only expect approximative results in our various estimates.

[I may be permitted to remark here, that seeing that all women in health, and not pregnant nor suckling, ought to menstruate regularly, and that they vary in constitution as much as in intellectual and moral character or propensity, we ought not to expect to ascertain a standard quantity as the rule of the sex. What the female requires as such, is to menstruate, and not to discharge just so many ounces, more or less. Indeed, that which is sufficient to maintain the health of a woman in one period of her life, or in one state of society, might be either too little or too much for her constitution under changed circumstances of age or social relations. Each woman is a law unto herself, and provided she obey that law, she is well, if not, by excess or deficiency, by anticipation or procrastination, she falls sick. It is well known, that in a great metropolis like Paris or Philadelphia, there exist multitudes of women who do not take the least precaution to prevent the blood of the menses from soaking through their clothes, and exposing their condition to the public eye, in the street or in the market place. I have met with many healthy women who informed me they never put on the napkin, and I doubt not that we daily meet with hundreds of menstruating women who wear no *cloth* for the purpose of receiving the discharge. Nevertheless, it is an event of the most extreme rarity to find a spot of blood upon the stocking or dress of a woman: in such persons it is not possible to conceive that the loss amounts to more than three or four ounces. But in a great many others the quantity is enormous. For example, when I have desired to obtain information on this point from my patients, I have inquired as to the number of changes used in the whole period of five or seven days, and I have been repeatedly informed that they change twice or thrice, and some even four times in twenty-four hours. Now three changes per diem for seven days, will give twenty-one napkins, on each of which is found at least two tablespoonfuls of blood, or more; but with the estimate of two spoonfuls to each, we shall have the result of twenty-one ounces for the whole product. I am confident that many healthy women lose fully this quantity as the regular and normal elimination. M. Brierre de Boismont, in his work *De la Menstruation*, p. 172, says, in speaking of the analysis of the fluid, "This task has lately been taken up by M. Bouchardat, who had the goodness to analyze the blood of one of my patients, who submitted to experiments for this purpose—one of the most disagreeable and distressing that could be thought of. In order to collect a quantity amounting to twenty-two grammes, about one ounce, it was necessary that a speculum, embracing the cervix uteri exactly, should be retained in situ for ten consecutive hours," &c. Now, if this woman yielded an ounce in ten hours, she would give more than two ounces in twenty-four hours; but at

the same rate for seven days, the sum of the discharge, it is seen, would be not far from fifteen or sixteen ounces. I repeat my opinion, that what it interests us as medical counsel to know is, not what is the usual quantity for women, but what is the rate of the particular woman in her ordinary health: her deviations from her own economic law are the signs and measures of her disorder.—M.]

Unwilling to extend our observations further upon a topic treated perhaps too much in extenso already, I shall abstain from repeating all that has by authors been stated in regard to the menses and their periodicity. The opinions of the writers who have treated this point are so different and often so contradictory, that we shall content ourselves with adding that the mechanism of the function is always the same, whether the discharge takes place within the body or the cervix uteri, in the vagina or in the appendages. Most modern physiologists regard the menstrual evacuation as an active hæmorrhage, and the effect of a peculiar excitement of the womb, but have not as yet settled the point as to whether the discharge takes place from the arteries of the capillary system or from vessels of the venous system.

The mystery of menstruation will be for ever covered with a veil which cannot be perfectly removed. Under this conviction, we shall confine ourselves to the statement that the flow takes place whenever, under the influence of a special law of the organization, the womb acquires a certain intensity of vital force proper to attract the blood towards itself at the periodical epochs.

We shall also add that the cause of the regular intermittence of this uterine erethism is a physiological problem which will, probably, never be solved.

[I trust that the exposition of the causes of the function, both as to its regularity and nature, given in a preceding page, and which has the sanction of MM. Negrier, Gendrin, Bischoff, Lee, &c., will be found, by most readers, sufficient to remove the doubt and uncertainty above expressed upon the subject.—M.]

In some rare cases the flow never appears, and it may be so without any evil consequences. This condition, which in nowise implies the nullity of the venereal appetite, nor even the existence of sterility, is sometimes met with in women whose sexual organs are in a normal condition, and present no physical obstacle nor chronic affection to account for the want of a secretion which appears to be inherent in the nature of marriageable women.

As the menstrual office is liable to frequent derangement, it may present phenomena requiring both assiduous and intelligent care. These alterations in the discharge are not, properly speaking, diseases, but symptoms of lesion of the organs charged with the eliminating office. The indications of treatment, therefore, will be drawn from the state of these organs themselves, or that of such as are sympathetically involved. As we shall be obliged to occupy the reader's attention with the disorders, irregularities and deviations of menstrua-

tion, we refer him to the future chapters that will be found to treat of the difficulty, the suppression, the immediate discharge or supplementary hæmorrhage of menstruation, and which are scientifically denominated *dysmenorrhœa*, *amenorrhœa*, *menorrhagia*, or *menoxenia*.

## PHENOMENA OF GESTATION.

Physical and moral changes that take place in gestation. Diseases to which pregnant women are liable in the various stages of pregnancy.

All the phenomena of which we have now given a slight sketch, are but the prelude to the admirable part the uterus is destined to act after the occurrence of conception.

In this new condition, it would seem to concentrate every thing upon itself. This is the period in which woman is called to the fulfilment of her most important task. The vital forces are concentrated upon a single organ; the conservative efforts then become less energetic, the reaction of the body less powerful, and, consequently, the impression of extrinsic agents becomes more lively and redoubtable.

Scarcely has conception taken place when the vital forces of the womb assume new strength, and radiate to the rest of the economy the most extraordinary sympathies and the most powerful reactions. The relations of the womb with the brain appear to become more intimate; the circulatory, the digestive and the respiratory organs are subjected to an unusual stimulation, and their sympathy with the gestative organs, whether greater or less, is announced by syncope, convulsions, faintness, dyspnœa, disgusts, and perverted appetite; by spasmodic colic and a variety of other appearances which are also signs of pregnancy. The nervous susceptibility is augmented, the inclinations and passions are changed, the sensations become more acute, and the force of the intellectual faculties is sensibly increased on the one hand, or, on the other, lessened; the imagination is more excitable and the judgment less sound. Women have been found to become insane in pregnancy, some have become musicians or poets, and some have acquired a thievish propensity. Their will loses its strength; their affections are less constant; antipathies, anger and even cruelty are occasionally met with in the sex, whose natural and inherent inclinations are marked by gentleness, goodness, compassion, tenderness, an exquisite sensibility, and the most eager desire to console the unhappy.

The womb having acquired, in its new estate, an incomparably greater vitality, there occurs, in the pregnant woman, a considerable number of modifications, both anatomical and physiological.

Some of these modifications, constituting in themselves the pregnancy, must be respected; but others of them, that are merely sympathetic or physiological, are divided into three classes. In the first class are placed those that we call *nervous*, to wit, vomiting, syncope, depraved appetite, nausea, anorexia, vigilance, toothache, ptyalism, headache, palpitations, tinnitus of the ears, deafness, mastodynia,

cough, dyspnœa, pains in the limbs and groins, heartburn, diarrhœa, constipation and nervous colic.

Those of the second class, which we denominate *plethoric*, are noticed in the second stage of pregnancy, that is, from the end of the third to the fifth month. Among these may be mentioned uterine hæmorrhage, epistaxis, piles; sometimes varices and œdema of the inferior extremities; hæmoptœ, cough, dyspnœa; and, lastly, abortion.

The modifications of the third class, which we call *mechanical*, are met with towards the close of pregnancy: in this list we place anteversion and retroversion of the womb, hernia of the womb, its prolapsion, its obliquity, its relaxation, to which must be added moles, abortion, colic, dysury, constipation, dyspnœa, varix, piles and œdema, with a number of other affections which neither can nor ought to be treated, but whose too violent symptoms may be palliated by reasonable methods, at the risk of seeing them reproduced at every step of the gestation.

[M. Colombat ought not to have included in a list of affections met with near the close of gestation, either the retroversion of the womb, then an impossible occurrence, or abortions, which are always supposed of the *embryo* and not of the *child*.—M.]

After having been for nine months exposed to all the inconveniences of pregnancy, the woman at length reaches the term of utero-gestation, when the fœtus and after-birth are expelled with severe pain. At this moment a complete cessation takes place of the connection of the fœtus with its mother; the womb contracts, the walls of the abdomen shrink back to their pristine form and dimensions, the breasts enlarge, a secretion of milk takes place, and at last all the organs recover their natural estate.

The diseases of lying-in women are numerous, some of them being chirurgical and some medical. Among the former are found lacerations of the womb or perineum, contusions of the vagina and of the vulva, prolapsus of the rectum, vesico and recto-vaginal fistulas, inversion of the womb and other physical lesions, which require the surgical aids which, in a later chapter, will be set forth and explained.

Among the second, which comprise vital lesions belonging to the province of medical practice properly so called, are observed acute metritis, puerperal peritonitis, the suppression or the immoderate flow of the lochia, milk fever and weed, inflammation of the mammary gland, dysury, strangury, ischury, puerperal engorgement of the inferior extremities, and, in fine, the various hæmorrhages that occur before, during and after delivery.

Notwithstanding it may be difficult to point out a treatment common to all these maladies, as various as they are numerous, it is easy to observe that most of them affect the inflammatory character, depending, probably, upon the sudden plethora resulting from the lessened extent of the sanguine circle immediately consequent to delivery.

Under such a view, might we not say that the most rational treatment, one that will generally suit the case, is an antiphlogistic one,

modified according to circumstances, such as the strength of the patient and the losses she may have sustained in labour?

When nature's object has been attained, says Roussel, she seems to neglect the means by which she has fulfilled it, the woman gradually loses her bloom—that delicate flower of the constitution, which buds and blossoms in early youth, vanishes as the morning dew. The expansive force, whence the organisms deduced their tints and their seductive forms, becomes relaxed, and a disagreeable flaccidity would succeed the supple and elastic firmness which marked them were they not sustained by the embonpoint which generally accompanies the adult age and deceives by a certain air of freshness.

This change in the physical character of the woman does not always take place so suddenly; it frequently happens that the conjugal union and its consequences make upon the constitution an impression favourable to the beauty of the female. Nevertheless, the frequent reiteration of the erotic spasm, conception, pregnancy and lactation, which are the consequences of marriage, have, on most women, the effect of lessening the bloom of the skin and the resiliency of the cellular tissue. Those especially who are of an amorous temperament, who have too much sensibility, soon lose their freshness and witness an early loss of the beautiful contour which persists for a long time in such as are of a cold and unexcitable constitution.

Without ceasing to love, the female arrives at length at a calmer and happier state; having become both wife and parent, she finds new duties, she experiences new sentiments; thus, the love of offspring, her conjugal tenderness, the education of her children, the management of her domestics, are the sole objects that attract her regard and fill up her happy existence. It is then that she has come to the possession of the purest happiness, a happiness connected with the love of her family and secured by the moral qualities inherent in her sex.

## OF THE CESSATION OF THE MENSES.

Physical and moral changes effected by the cessation of the menses in women. Diseases to which they are liable at the critical period and during the subsequent advance of old age.

Scarcely have the reproductive faculties ceased from their state of active existence, when the expansive forces of her economy become lessened and enfeebled. The woman begins to lose the hue and the blossom of life, which had opened under the expansive age which gives power to the circulation of the blood and juices; her complexion fades and gives way, and the disagreeable impression of wrinkles has taken the place of those enchanting outlines and that elastic firmness which characterized the surface of the skin. She now resembles a dethroned queen, or rather a goddess whose adorers no longer frequent her shrine. Should she still retain a few courtiers, she can only attract them by the charm of her wit and the force of her talents. Yet women are met with who preserve for a long time a part of the attractiveness of their youthful age, by means of a certain fulness

and embonpoint which, while it can have no comparison with the suppleness and freshness of youth, may yet serve to preserve the outline to a certain extent, and leave them the possession of attractions still capable of inspiring the tender passion of love.

Old age, always early for women, does not always commence as soon as they become absolved of all obligation as regards the species. She still has left a space, doubtless all too short, in which she may yet interest by the remnants of those charms that serve to recall the memory of those she has lost for ever.

After having been exposed to a thousand infirmities at the first eruption of the catamenia, during the season of their perfect establishment, at every return, during her pregnancies, and in her season of lactation, there remains for the female a period, more or less stormy, of life, to which she always looks forward with dismay, because it is accompanied with certain affections and maladies much more rarely met with during the adult age.

This period, so cruel for the female, whom it deprives of her beauty and her charms, is called the *critical age*, the *climacteric*, the *turn of life*, the *change of life;* and is announced by the more or less sudden cessation of the menses, and takes place in this climate between the forty-fifth and fiftieth year of her age.

Like the first appearance, so the cessation of the periods varies in different subjects, and is in subordination to the temperament, the constitution, the climate and the habit of life of the female. The connection existing between the first and the last menstruation has not escaped the view of the observant physician, and every one is aware that the cessation is at a later period, in proportion as the eruption was less precocious. Indeed, there is as great a difference in regard to the manner of the cessation as there is in that of the first establishment. In our temperate climate, however, it is prolonged to the age of forty-five or fifty years. This correspondent duration of the fertile age is what Rod. a Castro, a Portuguese physician, who practised towards the close of the sixteenth century, referred to in the *Tract. de Mulieb. Morb.*, lib. ii., in these Latin verses:—

"Adde decem ternis, mulierum menstrua cernis
Ad quinquaginta durat purgatio tota."

Samples, however, have been recorded of a much later fecundity; for example, Pliny, the naturalist, says that Cornelia, of the family of the Scipios, became the mother of Valerius Saturninus at the age of sixty-two. Vallescus de Tarenta, in his *Course of Physic*, published in 1518, says that he attended a woman in labour who was sixty-seven years old. The great Baron Haller mentions a woman still regular at seventy, and brought to bed at that age. I myself saw in the little town of Walse, department of the Ardèche, a woman who was very regular, and who was confined at sixty-one, and I may add, that one of my relatives, the mother of ten children, who resided in the department of Seine and Oise, where she died in 1832, never ceased from the age of eighteen to be subject to a sanguine discharge, which took place regularly every month to the seventy-third year.

And lastly, M. Orfila has informed us, in his lectures, of a fact still more extraordinary. A woman, said the learned professor, who had had seven children, became pregnant of her first child at the age of forty-seven, gave birth to her last at sixty, was regular to her ninety-ninth, and died at 114.

[M. Brierre de Boismont, at p. 209, says, "It is generally observed that the cessation takes place in this country (France) at about forty-five, sooner or later." The fact is true, but I think the appreciation of it would be more perfect in view of a tabular statement, indicating the different periods of the change of life. I have collected 183 cases of women in whom the menses had ceased, and here are the results.

| | | |
|---|---|---|
| 21 years 2 | 37 years 4 | 48 years 8 |
| 24 " 1 | 38 " 7 | 49 " 7 |
| 26 " 1 | 39 " 1 | 50 " 12 |
| 27 " 1 | 40 " 18 | 51 " 4 |
| 28 " 1 | 41 " 10 | 52 " 8 |
| 29 " 1 | 42 " 7 | 53 " 2 |
| 31 " 3 | 43 " 4 | 54 " 5 |
| 32 " 2 | 44 " 13 | 55 " 2 |
| 34 " 4 | 45 " 13 | 56 " 2 |
| 35 " 6 | 46 " 9 | 57 " 2 |
| 36 " 7 | 47 " 13 | 60 " 1 |

Total 181—M.]

It often happens that the discharge is suddenly suppressed, but it generally ceases by degrees, and this successive cessation in some cases comprehends the interval of only one, and in others of six months. Certain females are met with, who are two whole years losing the attribute of the sex. If interrogated upon this point, many of them will not give a candid answer, for they desire to dispute every inch of ground with the advance of old age. They invariably conceal the ravages of time, and converse with evident disquietude of the close of their spring-time of existence, even when the faded traces of beauty, and the stealing traces of grayness in the hair proclaim the approach of winter. Delivered from the discharge attached to the important functions of the uterus, the woman loses along with it the power of conceiving, and ceases thenceforth to exist as for the species.

At this period she may be said to exchange her own constitution for that which is appropriate to the male; but being of a more flexible constitution, she is less exposed than he to the assault of many maladies, and is more likely to run a long career of existence. Nevertheless, she certainly does undergo very remarkable changes in her nature, which we shall distinguish, like those that occur at the other periods of her life, as either physical or moral.

The womb having laid aside those vital properties which fitted it for the act of reproduction, gradually ceases to react upon the general

economy, and takes its place in class among the other organs whence it emerged at puberty. It diminishes in size, becomes more dense, its cervix undergoes a sort of atrophy, and little by little, is effaced; its os tincæ becomes undistinguishable, or disappears entirely. At this period all the organic functions are performed at a diminished rate. As the blood no longer retains its habitual determination towards the organs of reproduction, it flows more freely towards the superior regions of the body, where it gives rise to vertigo, headache, epistaxis and hot flushings. The face acquires a purplish hue, the eyes are red and injected, to which symptoms are added dizziness and buzzing of the ears. The pulse being full and bounding, indicates a plethoric state; the beatings of the heart are effected with a sort of distress, the respiration is not easy, and the sleep, often broken by frightful dreams, does not serve as usual to repair the wasted strength. In fine, a sort of uneasiness and restlessness of the limbs comes to indicate a state of great irritability, conjoined with extreme exhaustion. The pains that she feels in the loins and in the lower part of the abdomen, are accompanied with in olerable and vexatious itching about the vulva and fundament. The skin rapidly loses its colour and suppleness, becomes wrinkled and sallow; the hair falls off or turns gray, the breasts, which at first become flaccid and pendulous, at length disappear entirely; the perspiration lessens in quantity, the urine increases in abundance, the voice changes and resembles more nearly that of the male, and all the graceful and soft contours of the gentle sex disappear, to be replaced by a wrinkled surface.

Some women get happily through the change of life, especially such as were always thin and delicate before, who have the constitution completely changed, and so greatly strengthened, that the most perfect health and plumpness seem to restore to them the elegance of figure and form they enjoyed in the spring-time of their days, and almost to re-establish the polished and finished air of youth.

The moral character of the female is sometimes even more affected by the change than her physical constitution. She becomes sad, restless, taciturn, she regrets her lost power to please, the enjoyments that are gone forever, and the future, which she views clothed in the most sombre hues. Some among them, who were always good, sweet-tempered and patient, become sour, excitable, irascible; often falling into passion without provocation, they become unjust towards every body; they issue their orders with sharp tones, and treat every body about them with severity. In others, the sensibility increases as it did at puberty, and they are pestered with vapours and hysterical paroxysms, or tyrannized by the memory of past love, seek to extinguish their ardour in new sources of enjoyment. This resurrection of the desires and passions almost always leads to bitter remorse, and to the most formidable results.

In spite of the loss of all her physical advantages, the aged woman who is endowed with sense and wit, and who renounces all vain pretensions, and lays aside all coquetry, finds it in her power, by

numerous admirable qualities, to become more worthy than ever of the warmest friendship and confidence of the male, whose lover she is not, but to whom she is a sincere and consolatory friend. At this period the qualities of her soul are greatly perfected; the passions that long agitated her bosom have purified her heart, which becomes steady, so that her friendship is immovable, and capable of the greatest sacrifices. Together with a new existence, she regains a new dominion over all that surround her, and her empire, which was previously circumscribed by the narrow circle of a few men, now comprehends within its circumference even the women who have ceased utterly to be classed among her rivals.

The unhappy victims of a life of celibacy, those whose lives have been agitated by the liveliest passions, by numerous vexations or excess of pleasures, are generally more violently and painfully shaken at the crisis than such as have made a better use of their existence.

Dr. Moreau de la Sarthe, the elegant and spirited author of the *Hist. Natur. de la Femme*, justly remarks that two circumstances are worthy of observation, among the numerous differences presented by the change of life in those women who have not passed easily and naturally through the revolution.

"The first is that of a stormy suppression, the consequence of an excess of strength and vitality in the womb, which with difficulty renounces its habits of exaltation, and in its last effort to preserve its empire and predominance of action, overthrows the whole living system, and gives rise especially to nervous disorders, and a profound change in the powers of the digestive apparatus. When the cessation takes place in so unfavourable a manner, women observe that their habitual indispositions become more frequent and serious. All their functions are more or less disordered and irregular. The complexion acquires an unhealthy tint, or a bilious hue, and transitory flushings of the face are frequently felt, so that the countenance at last becomes permanently reddened all over, or in patches of colour seated on a dark and sallow ground. She also suffers under some other more or less serious ailments. A painful sensation in the loins and in the region of the womb, sadness and depression, rebellious vigils, strange and fatiguing dreams, swelling of the joints, &c.

"The other circumstance consists in too prompt a cessation; one so sudden and unexpected, that she mistakes it for a simple suppression. Such a case is always serious, as are, for the most part, all suppressions of habitual discharges that do not take place gradually, when they are of a kind that exert considerable influence on the constitution. These sudden revolutions commonly lead to a general disorder of the health, whose real cause is apt to be misapprehended, or they lay the foundation of disease in the organ itself, whose weakness and unsteady vital rate become the sources of multiplied accidents and infirmities.

"The hæmorrhages that supervene in such cases are mostly accompanied, or even preceded, by sharp and *pungent* pains in the region of the womb, and are also followed by the symptoms usually appertaining to such incidents of disease. Differences in constitution,

whether natural or acquired, must effect numerous diversities in the mode in which women come to the complete *change of life.*"

This picture of the phenomena that accompany the close of menstruation, is but a version of that drawn by Dr. Fothergill, in the first volume of the *Trans. of the Med. Soc. of London.* The celebrated English physician also thought, and very justly, that the sudden cessation produced symptoms the more alarming if the female had habitually made an improper use of pleasure, if she had had but few children, if barren, and lastly, if she had laboured under herpetic affections, or neglected syphilitic disorders.

There are a great number both of local and general disorders that may help to cast a deeper shade over the picture of the female crisis. Scirrhus, cancer of the womb, vagina or rectum, of the breast and ovary; dropsy of the ovarium, or the Fallopian tube; chronic metritis, uterine hæmorrhage, fibrous tumours and polypus of the vagina or womb; ulcerations and catarrhs of these parts; and, in fine, numerous other local and general affections, are the mournful appurtenants of a woman at the change. Considering all the various modifications of the economy of the female that take place under the influence of the womb, might we not venture to say, with Van Helmont, *Propter uterum mulier id est quod est;* and with Hippocrates, *Propter uterum mulier tota morbus est?*

Notwithstanding the female grows old earlier than the male, a greater number of examples of longevity is found among women than among men, except, indeed, a few very rare cases of extraordinary longevity, which are always found to occur in persons of our own sex. The numerous researches that have been made as to the mortality among women, and particularly at the period called change of life, prove that this period, which they look upon as so dangerous, is in fact not more critical for them than for us, and does not show a greater ratio of mortality for females than for men. Muret, in his work on the *Population of the Pays de Vaud,* did not find that from forty to fifty was more dangerous to females than from the tenth to the twentieth year of age; and M. Benoiston de Chateauneuf, who has also made very elaborate researches on the same subject, read an interesting memoir at the Acad. of Scien., in 1818, which contains results as follows:

"From the fortieth to the sixtieth degree of latitude, on a line extending through Vevay, Paris, Berlin and Stockholm, we can discover at no period of the life of the female, from her thirtieth to her seventieth year, any other increase in the ratio of mortality than that necessarily determined by the progressive advance of age. At every epoch of the life of the male, from the thirtieth year to the seventieth, the mortality exceeds that of the other sex, but especially from forty to fifty years of age. It follows, then, that the age from forty to fifty is more dangerous for men than for women, and that too without reference to the kind of life they lead, whether in town or country, in the camp or the cloister. But, as it cannot be denied that women do die between the fortieth and fiftieth year of the consequences of their great physiological change under consideration, and as in spite

of this cause of mortality, not to be found in the other sex, their decrease, instead of being greater, is actually less than that of the male, what power and duration of life would be theirs, were it not for this condition which nature has appended to their sexual character?"

At Paris, and at all the great cities, where the causes of hygienic perturbations are very abundant, and constantly renewed, the women use up their day of youth and expend their vital power almost without perceiving it. They are surrounded by many circumstances calculated to hasten the approach of old age and lessen the duration of life. We intend to speak at large on this subject, in that portion of this work that treats on the hygiene of the sex, as applicable to all the periods of their life.

Having now sketched a picture of the changes that take place in women, and having indicated the peculiar diseases to which they are principally exposed at the different phases of their existence, we shall proceed to say a few words upon the surgical anatomy and the varieties of conformation of the genitalia, and upon the sympathies of the womb.

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## CHAPTER II.

### OF THE VARIETIES OF CONFORMATION, THE SURGICAL ANATOMY OF THE GENITAL ORGANS, AND THE SYMPATHIES OF THE WOMB.

As the external genitals of the female present no anatomical character that is not familiar to all physicians, we shall here confine ourselves to the duty of describing only such varieties of conformation as they may present according to differences of age, climate and constitution, and we shall indicate especially those points in their surgical anatomy, the knowledge of which is important as throwing light upon some points of the diagnosis, as well as simplifying some of the operations that are required in the treatment.

In southern climes the sexual parts are found a little higher up and more in front than in cold and damp countries. Thus, in the Scottish, English and Dutch women, the vulva is not so directly in front, and the womb is lower down than in the French women of the southern departments, the Spaniards and the Italians. The latter are known to have the labia of a more rounded form, and containing a more abundant and elastic cellular tela.

[This remark has been made by other writers; but it is difficult to imagine that any other foundation for it can exist than the imagination. The human pelvis is very much alike all the world over, and since the genitalia are founded upon the bones of the ossa pubis, how can it be that such differences as those described by the author are to be reconciled with

the anatomical, or rather the osteological basis of these formations. In all women, except those in whom the external genitalia have been injured and relaxed by repeated acts of parturition, by the relaxation of age, emaciation, debility and accidents, the posterior commissure of the genital fissure, coincides with the top of the pubic arch; but as the symphysis pubis is but an inch and a quarter to an inch and a half long, all the world over, it is clear that the author is under some mistake in making out his point above stated. To suppose him correct is to suppose that the southern women have very deep pubic symphyses, or that the plane of the superior strait dips at a lesser angle under the horizon, which is inadmissible.—M.]

In young females, the labia are thicker above than below, in which respect they differ from those of women who have borne children. In early life these two folds are not so near together as at a later period, although they are more prominent and of a larger size relatively. At the age of puberty they are in mutual contact closing the genital fissure, and are also of a firmer texture than at any other period. In married life, and particularly after parturition, the labia becomes soft and pendent, and lose their original form and evenness. The mucous membrane that lines the interior surface is of a lively red in the virgin, but acquires a brownish and violaceous hue in such as have been the frequent subjects of the coitus, and who have had many children.

At birth the nymphæ generally project beyond the level of the labia—in young virgins the labia conceal them, but they again become salient in child-bearers. In the commencement, from being firm, erectile and of a rosaceous hue, they grow flaccid, and, like the mucous membrane of the labia, turn soft, brown or violet-coloured, and offer a greater variety of appearances than the labia do in different races and climates. Among the Turkish and Persian women the nymphæ are naturally much more prominent than in our European regions, and in some of them they grow so very large as to obstruct the entrance and constitute a disorder so disgusting that it is removed by means of the excision of the swollen part. Ten-Rhine, Tackard, Sparmann, Banks, Peron, Le Sueur and most of the naturalists have spoken of a very considerable elongation of the nymphæ, which is known as the *tablier* des Hottentottes, or Hottentot *apron*, and which seems to be a conformation natural to the Bosjesman women of Southern Africa. Levaillant says that this hideous conformation, this sort of fleshy apron of the Hottentots is not an elongation of the nymphæ, but of the labia themselves, which, according to his account, grow to the length of eight or nine inches.

The uses of the nymphæ are but little understood. The ancients conferred upon them the name of nymphæ, in allusion to the fabulous nymphs who presided over springs and fountains. Most of the accoucheurs suppose that their use consists in giving, by their unfolding in labour, more material for the distension of the external parts. It has also been said, that as they are endowed with the highest sensibility, they contribute to augment the sexual excitement. The

learned academician, M. Serres, supposes that during the act of copulation, the nymphæ being forced backwards into the vagina, their upper extremity, which surrounds the clitoris as a preputium clitoridis, is drawn forwards and downwards so as to compel the clitoris to touch the dorsum penis, which occasions a much more intense erotic sensation.

Like the other parts of the external genitalia, the clitoris is found to be the subject of differences which are worthy of mention. This exquisitely sensitive point, which has been compared to the uvula, and which is like a miniature penis, is relatively much larger at birth than at any other period.

[It is difficult, in the early embryonic stages, to detect the difference of the sexes, in consequence of the similitude of the penis and the clitoris.—M.]

It soon ceases to increase in size, and at puberty is commonly four or five lines in length. But in a few cases, women are to be met with, in whom the clitoris is six inches long, which gives it a considerable resemblance to the male organ. This state of the case generally gives rise to a suspicion of hermaphrodism, and is observed in women of a very masculine character, and who prefer the kind of occupations generally devolved upon men alone. Such women commonly have very small breasts, but the muscular and pilous systems are, on the other hand, greatly developed. The upper lip and chin are bearded, they are of tall stature, and, in fact, they seem to belong really to neither of the sexes, and are said even to be fond of the illicit enjoyment of other females.

[I do not feel that I have the right to doubt the above remarks, but I cannot refrain from saying, that they can have no other foundation than the imagination of authors by whom they have been reiterated, and need only suggest to the medical reader, that such a clitoris, even if slightly endowed with erectile properties, can by no means be supposed capable of such a state as to admit the possibility of so revolting an act. It is true that there are the corpora cavernosa clitoridis, but as there is no corpus spongiosum, nor glans, and as the clitoris in question is a case of diseased hypertrpohy, the notion repeated by our author must be without real foundation, in the anatomical nature of the part.—M.]

If, as is generally believed, the frequency of conception is in a direct ratio to the intenseness of the erotic excitement in the sexual combination, it is a consideration of much importance in surgery to respect, as far as possible, both the clitoris and the nymphæ, which, in consequence of their sensitive endowments, appear to be the principal seats of the erotic excitations.

In its anatomico-chirurgical regards, the vestibulum presents nothing of interest, excepting that it is the point at which both Celsus and M. Lisfranc have advised us to open the bladder for the extraction of a calculus.

There are several anatomical varieties of the urethra, especially at its external orifice. This canal has been seen to open into the vagina,

into the rectum, and even on the mons veneris. There are some females with the vulva very small, even though they may have been subject to the coitus, in whom the orifice is far back, behind the symphysis of the pubis.

In such case it would be impossible to apply the catheter, unless, by introducing the index upwards and backwards, the surgeon should first draw the urethra downwards and forwards to expose its orifice.

The perineum, that is to say, the space betwixt the anus and the vulva, is smaller than is commonly supposed; when it seems to possess an antero-posterior diameter greater than common, it happens so because its anterior margin is prolonged by means of a sort of transverse band, thin from above downwards, and slightly concave forwards, terminating in a thin membranous edge, beyond which the fossa navicularis is situated. From this anatomical arrangement, it happens that the longer the perineum, the shorter seems to be the genital fissure, and *vice versâ*. The perineum, in reality, is always of the same extent, and it is only this prolongation of its transversal fold that varies, and that sometimes augments its antero-posterior diameter. We have deemed it proper to mention this circumstance, in order to show that whenever, for certain surgical purposes, it might be judged necessary to increase the size of the vulvar opening, we might do so by dividing this anterior transverse band, without any fear of doing injury to the true perineum.

## OF THE VAGINA AND CERTAIN VARIETIES OF CONFORMATION OBSERVED IN IT.

There are varieties of conformation observable in the vagina, in different women, the knowledge of which is of much importance to the practitioner. In the virgin state the tube is generally partially closed, on its posterior part, by a membrane called the hymen, which although ordinarily very thin, is sometimes found to be several lines in thickness. In childhood this membrane forms a semilunar fold, and it acquires only at puberty, according to Ruysch and Meckel, a circular form in some specimens. The former of these authors, and some modern writers, and among them M. Lisfranc, relate cases in which it has been found double.

This membranous fold, which is correctly regarded as one of the best signs of virginity, is, nevertheless, sometimes found to exist in young persons who have ceased to be virgins. In such cases it has been preserved by its thickness and elasticity from rupture by the violence offered to it. Examples of this sort are very rare, however, for in an immense majority of cases, the hymen is ruptured at the first sexual approaches, and the fragments into which it is then torn constitute certain small fleshy eminences, called carunculæ myrtiformes, which it is necessary not to confound with venereal vegetations. Notwithstanding the great moral importance attached to the integrity of the hymen, there are cases met with in practice, in which the surgeon is compelled to destroy the membrane, by means of an

operation to be described when we shall have occasion to speak of the indications that render it indispensably necessary.

The vulvar orifice of the vagina, which is not very dilatable in young marriageable girls, is much more so in women who have borne children, and its dilatation is almost null in women arrived at the change of life, and especially in such as have long overpassed that critical period. As the sexual organs at this age have no functions to fulfil, they become atrophied, the vagina contracts, its mucous coat, which was soft and full of pleats in youth, now becomes smooth, whitish and polished; the vaginal orifice, instead of being a supple and easily dilatable ring, becomes hard and resisting, and is, in many persons, so contracted as scarcely to admit of the introduction of the little finger.

Instead of being a cylindroid canal, as it is described to be by almost all the anatomists, the upper third part of it exhibits a dilatation so considerable as to admit of the finger pressing it aside in every direction, and even of our examining the very corpus uteri. The author was long ago acquainted with this fact, of the great extensibility of the part of the vagina that is nearest the womb, and it was this knowledge which gave rise to the idea of his speculum brisé, as well as of the peculiar mode of operating for amputation of the cervix uteri. The superior region of the vagina, in its posterior and lateral parts, is in direct relation with the peritoneum, so that if the surgeon should make a perforation there, he would inevitably wound the peritoneal membrane and penetrate the abdominal cavity, whilst a perforation made in front and above, would penetrate the bas-fond of the urinary bladder.

Instead of being inserted horizontally and like a ring upon the cervix of the womb, as we are taught by all the anatomists, the upper end of the vagina is attached obliquely from behind, forwards, that is to say, the anterior surface is nearer to the os tincæ than the posterior. This arrangement, the knowledge of which is extremely important as regards the operation for excision of the cervix uteri, affords a more considerable space behind than is found in front of the cervix. M. Lisfranc found, in more than one hundred patients, that the breadth of the vaginal insertion is much more extensive than is generally supposed, and that it may vary from six to fifteen lines. According to that distinguished surgeon, the smallest distance from the os uteri to the peritoneum is nine lines on its anterior and ten lines on its posterior surface. This discovery has, on various occasions, enabled him to cut off six or eight lines in length of the cervix, still leaving to this part of the organ a sufficiency of the insertion to support the weight of the viscera. It is easy to conceive of the advantages arising from the anatomical disposition we have just detailed, and to appreciate the value of a correct knowledge of them in performing certain operations upon the neck of the womb.

We must add, moreover, that the inferior region of the vagina is somewhat depressed in a direction from before backwards, and slightly bent towards the pubis. Its two extremities are cut obliquely or beveled, so that its anterior is shorter than its posterior wall. The

vagina is remarkable for the property it possesses of dilating, and of rapidly and insensibly acquiring very large dimensions in every direction. Tumours are frequently formed in its interior, that distend it more or less both in its longitudinal and transverse diameters; thus a polypus, whether fibrous or carcinomatous, a lipoma, a steatoma, a phlegmon, &c. &c., not unfrequently cause the canal to acquire, by degrees, an enormous dilatation. In these cases, as happens after labour, when the distending cause has been removed, the walls contract by degrees and at length recover their natural size.

[The translator requests the attention of the reader to a circumstance in the anatomical character of the vagina that seems to have escaped the observation of the author of the work. It is this, that the posterior and part of the lateral walls of the vagina are inserted in the soft and distensible parts, as the perineum, while the anterior and part of the antero-lateral walls are firmly attached to the pubic arch. Now it is worthy of remark, that when the womb, in labour, is pressing the presenting part of the child through the lower part of the vagina, but dilating and stretching it in length to its utmost capacity, the chief part of the strain must be expended on the anterior column and the antero-lateral walls of the organ. Hence, if the vagina gives way or becomes lacerated, the rupture will be most apt to commence on the anterior or on an antero-lateral surface, which cannot yield in length so freely as the posterior column can do, that being attached to the perineum, and to other soft and distensible parts.

I have seen two cases of labour in which the vagina was ruptured, and in both, the fracture occurred in the anterior and antero-lateral surface and not behind. Such an accident, implicating the vesico-vaginal septum, could scarcely fail, except by merely detaching the vesical mucous membrane, such an accident, I say, could hardly fail to give rise at least to a very bad case of vesico-vaginal fistula. I avail myself of this opportunity to recur to M. Colombat's remarks on the great distensibility of the upper portion of the vagina. This fact is often noticed in the management of early abortions, say of six weeks to two months. In such cases, when attended with great hemorrhage, it is common to find the part of the tube in question enormously distended, even when it does not, at the moment, contain but little fluid or coagulated blood. The lower or exterior end of the organ is close, tight and firm, whereas it would seem that the upper two-thirds of the canal are frequently found dilated to a size sufficient to contain a very large pippin or an orange. I have often found it similarly dilated in the mere case of menorrhagia. I have so often had occasion to find the parts in this state, that I have little doubt of its having been as frequently observed by other practitioners, and it is important to dwell upon it for the purpose of indicating the necessity there is, in such instances, of employing, if at all employed, a sufficiently large tampon. A tampon, consisting of a single piece of sponge, is, in my opinion, inefficient, inasmuch as a sponge of sufficient dimensions to fill up this great dilatation, can not readily be intro-

duced through the os externum. Hence the tampon that I invariably prefer, consists of portions of linen torn into squares of three or four inches, of which the pieces are successively introduced until the cavity is quite filled. Such a tampon very rarely fails to suppress the hemorrhage of an early or embryonal abortion.—M.]

We shall close this article by remarking, that there are frequently formed in the vagina, membranous bands or bridles, either circular or lateral, which may interfere with the operation of touching, and prevent us from getting a view of the os uteri on using the speculum. Dr. Pauly, in his work on diseases of the womb, relates from Lisfranc, two cases, in which that learned practitioner met with circular bands of this kind dividing the vagina as by a diaphragm, with a central opening of two or three lines in diameter, and situated about one inch below the os uteri. The uterus was in a diseased state, as was shown by certain well-known symptoms, and by a considerable leucorrhœal discharge. Being unable to reach or see the womb, M. Lisfranc, at all hazards, resolved to cauterize the cervix through the small opening, and had the good fortune to restore the patient to health.

## OF THE WOMB, ITS SURGICAL RELATIONS, AND OF CERTAIN VARIETIES OF ITS SITUATION.

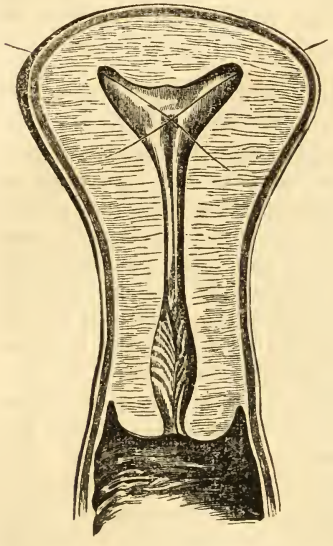
The womb, which is designed for the lodgment of the fœtus from the period of conception until delivery, is a hollow, symmetrical organ, shaped like a pear; or of a truncated, conoidal figure; placed in the pelvic excavation, beneath the convolutions of the small intestines, behind the bladder, in front of the rectum, and attached inferiorly to the vagina; which is inserted obliquely from below and in front, in a direction upwards and backwards, into that part of the womb to which the anatomists have applied the term *neck*, in order to distinguish it from the rest of the organ called its body.

The front surface of the womb is slightly convex. Only the upper half of this part of the womb is covered by the peritoneum, all the rest of it being in contact with the bas-fond of the bladder. The posterior surface, which is much more convex than the other, is wholly covered with the peritoneum, and seems to be separated from the rectum by a small space in which an intestine might become strangulated.

The external surface of the womb presents three margins and three angles. The superior margin, which is convex and smooth, corresponds to the fundus; the two others, which are lateral and convex in their superior half, but concave in the inferior half, are covered by the broad ligaments. The superior angles of the womb are situated upon the sides, and conjointly with the margins, which are here united, they give rise to the Fallopian tubes, the ligaments of the ovaries and the round ligaments. The third or inferior angle, which it is most important to understand well, forms the os tincæ or free extremity of the uterus, which shall be described when we come to speak of this part of the womb.

The cavity of the viscus, of a triangular shape, is lined by a membrane, which we shall denominate a mucous membrane, though it has no epithelium; we denominate it thus because it furnishes mucus in the healthful, and puriform mucus in the unhealthful state. The internal walls of the womb are very near to each other, and there is a raphe along the median line of this cavity both on the front and on the posterior wall. Upon this raphe are directed other oblique and transverse lines or folds. In virgins, the sides as well as the fundus coincide nearly with right lines, or they are slightly convex inwards, whereas, in women who have had children, they are very concave. The two superior internal angles are continuous with the origin of the Fallopian tubes, and are frequently found more or less dilated like a funnel. The inferior angle, at the base of which is found the superior internal orifice of the cervix, will soon be described in speaking of the neck of the womb.

Fig. 1.



In women who have had no children, the uterus, from the top of the fundus to the most projecting part of the anterior lip of the os tincæ, has, in most of our measurements, been found to be from twenty-six to twenty-eight lines in length; from front to rear, at the thickest part, from nine to eleven lines; and from side to side, measured horizontally, from twenty-three to twenty-four lines—but it ought to be observed that all these measurements are one or two lines larger in women who have had several pregnancies.—(Vide Figure.)

Being retained in its place by very lax ligaments, the womb, without being itself the subject of disease, is readily subject to displacement, and yet continues to exercise all its functions. All these various uterine malpositions, of which notice will be hereafter taken, may be in the direction downwards, upwards, to the right, or the left, and forwards, or backwards. M. Lisfranc justly remarks that they are most commonly the results of uterine engorgement, the weight of the organ being augmented, causing it in that state to put its ligaments on the stretch and thus to lose its natural position.

The height of the womb in the pelvis may differ according to the stature of different women, their climate, or some peculiarity of constitution. Thus, in very tall women, in women in warm latitudes, but especially in virgins, the womb is higher up than in those of cold and moist countries, in such as have had children, or in whom the physical conditions we have stated are absent. In some persons the womb is naturally very low without any assignable cause, and,

on the other hand, it is often found to be very high up in the pelvis, either in consequence of its great size, which gives rise to a sort of locking of the organ there, or from the presence of tumours within the pelvis, or even of fæcal matters hardened and impacted in the rectum. The last-named cause sometimes has a different effect—forcing the womb down to the bottom of the pelvis by the masses accumulated above it.

As the ovaries and the ligaments of the womb offer nothing very peculiar in regard to their chirurgico-anatomical relations, we shall proceed to speak of the neck of the womb and its imperfectly understood relations to the peritoneum and vagina, and, in fine, all the anatomical points on which are founded most of the operations to be described in this work.

## VARIETIES OF CONFORMATION, AND SURGICAL RELATIONS OF THE NECK OF THE WOMB.

The contracted part which forms the inferior angle, I mean the neck of the womb, is extremely variable as to its form and the degree of its projection within the vagina. In vertical diameter it is from eleven to thirteen lines long in adult women, and from eight to ten in persons of advanced years, while its antero-posterior diameter is six or eight lines and the transverse eight or ten. On the extreme portion of the neck that projects into the vagina there is a transverse cleft bounded by two rounded lips—the anterior one being thicker and longer than the posterior, which, according to our observations, is more frequently than the other the seat of primitive ulcerations of the os tincæ. The posterior lip is, also, the one most frequently eroded by cancerous ulcers, probably from being found in more permanent and immediate contact with all the secretions of the womb. The projection which these two lips present to the observer, and which constitutes the os tincæ, is subject to several differences in different people. In general it amounts to four or five lines for the anterior lip, and three or four for the posterior, although the contrary might be imagined upon carefully performing the operation of touching; for, as we have already stated, the vagina ascends higher behind than in front. This anatomical arrangement may be easily verified by separating the womb completely from the vagina in the subject.

In women who have had no children, the lips of the os tincæ are found shut; but in those who have conceived they are naturally partly open, soft internally, and sometimes tubercular, more or less tumid, and though in all other respects perfectly sound, they are occasionally found of a grayish, violaceous or deep-red colour. It is easy to conceive the importance of not mistaking for disease all the varieties of shape and appearance we have described, and particularly the hard and linear cicatrices which are the consequence of laceration of the os uteri in labour. It ought to be noted, however, that, when the lips of the os uteri are uneven and festooned, it does not invariably follow, as is commonly thought, that there must have

been one or more pregnancies, for certain disorders may give rise to such appearances, and women who have conceived again and again have a different condition of the os tincæ.

In most persons the neck of the womb is not placed perpendicularly in the centre of the vagina. If it be true that it is sometimes found inclined forwards, it nevertheless is almost always inclined backwards, especially in married women, because, during the copulative act, it is forced backwards in that direction. Without being at all diseased it is found to be softer and larger some days before and during the whole period of the catamenial discharge: it is then of about the same size, consistence and sensation as is found in it at the second month of gestation.

Our own anatomical researches have led us to conclude, that the distance from the os tincæ to the peritoneum is really but nine lines in front, and not more than seven or eight behind, for on that side the serous membrane descends quite down upon the vagina, to make the recto-genital excavation. These measurements, which are estimated to be greater by some surgeons, are not so large as they are in women advanced in years, because both the body and neck of the womb may, in such persons, be said to become atrophied, which is doubtless the real cause of that obliteration of the os tincæ, long known to the medical authorities, among whom we may mention the names of Mayer of Bonn, Lisfranc and Velpeau, and which, in accordance with M. Breschet's opinions, we look upon as a real physiological law.

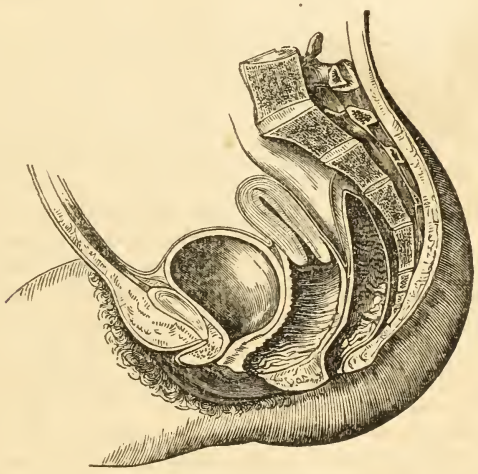
According to Messrs. Velpeau and Civatte de Siteron, the dimensions we have laid down would be found less, particularly behind. The last named author, in his thesis, asserts that the antero-superior part of the cervix touches the bas-fond of the bladder, and adheres to it by means of a loose layer of cellular tissue, which corresponds precisely to the middle of a line drawn from the orifice of one ureter to the other. He adds, that if a horizontal section of the womb should be made, at the distance of four lines above the extremity of the anterior lip of the os tincæ, it would just lay open the cellular tissue that unites the bas-fond of the bladder to the neck of the womb. Instead of making the incision at this point, if it should be effected five lines above, it would inevitably open the peritoneum.

M. Civatte says, further, that in making an incision at the distance of five lines, if the edge of the bistoury were directed forwards and upwards, it must wound the bladder, particularly if distended with urine. Posteriorly there is a greater space between the extremity of the lip and the terminus of the surgical neck, but in this situation there is no cellular space like that which is found in front, and a section, even if horizontal, higher up than the limits proposed by M. Mury, would hazard a wound of the peritoneum. Here the rectum is united to the cervix by means of the upper part of the vagina, and by about one line in width of cellular tissue. The upper part of the vagina is inserted into and confounded with the neck, anteriorly, four lines above the end of the lip, and posteriorly, five lines higher up than the top of the posterior lip: the longitudinal and ascending

fibres of the vagina thus proceed to form the first muscular layer of the cervix uteri, and to continue upwards with the superficial longitudinal fibres of the uterus.

Before closing our remarks upon the subject of the cervix uteri, it ought to be observed that the degree of its projection into the vagina is not always as great as we have stated, for its varieties are infinite. Women in phthisis, for example, have the neck of the womb remarkably prominent; in little girls, nine or ten years of age, as is the case with the clitoris, the salience of the cervix is proportionably greater than it is in adult women. In the latter it often loses in length, but gains in breadth or thickness. In aged persons, on the contrary, it disappears almost completely, and always seems to become absolutely atrophied.—(Vide figure, which needs no explanation.)

Fig. 2.



## FAULTY CONFORMATION, PRIMITIVE OR ACCIDENTAL, OF THE FEMALE SEXUAL ORGANS.

The sexual organs of females are subject to vices of form, consisting in their absence, occlusion, narrowness, adherence, voluminousness, connections and shape. The greater part of these lesions depend upon some fault, arrest or aberration in the laws of their development, or on some disease affecting the individual either before or after her birth.

The records of the science contain no sample of complete and simultaneous absence of all the internal genital organs. In some rare cases only a single ovary has been found, with one tube, and half of a womb. There may be absence of the ovaries, while all the other sexual organs are in a natural condition.

In a post-mortem examination, carefully conducted, M. Jadelot found but a single ovary. They have been by various persons met with, of very minute size, which almost invariably implies sterility,

for the Graafian vesicles could not be developed in such ovaria. The Fallopian tubes have been found to have contracted adhesions with the peritoneum, or to be closed in a few instances, in some near the ovary, in others near to the womb.

Theden, Lieutaud, Bousquet, Engel, Professor Caillot, MM. Renauldin, Breschet and others, have related cases of absence of the womb, and have found examples in which the neck alone existed, and others in which it remained in the rudimental state.

The womb has also been found divided into two equal or unequal portions, either entirely or partially, internally or externally, and that in the same case. Such a case constitutes what is called a double uterus, or two-horned uterus, like the natural uterus of a quadruped.

Fig. 3.

It may likewise be perfectly divided into two separate wombs, each of them opening by an os uteri into a separate vagina. Or they may have a single cervix, though the body is divided into two distinct halves. There are cases met with, in which the exterior shape of the womb is not at all changed from the natural appearance, yet its cavity is divided into two parts by a vertical median septum.

It has happened, but very rarely, indeed, that the womb has been so very little developed, as to nullify, physiologically speaking, its entire functions. Baron Portal, in his *Pathological Anatomy*, speaks of two women in whom the womb was not in either of them larger than it is in a child of nine or ten years old. They were both moderately fat, the mons veneris was not covered with hair, and the other external genitals presented the same characters as are observable in childhood. M. Renauldin also tells us of a woman who, instead of a womb, exhibited a cord about the size of a writing quill, while M. Pauly cites the example of a lady of sixteen years old, not yet regular, and subject from her ninth year to attacks of hysteria, in whom he found a womb the size of a hazelnut, with a bulb not three lines in diameter.

Although, in most cases, the orifices of the bilobate womb open with a simple or double vagina, it is shown by Valisnieri, Saisard and Daverney that one of them sometimes opens into the rectum, while the other preserves its true position. But whether the os tincæ be single or double, whether it depend upon a bilobate or natural womb, it has not very unfrequently been met with opening into the rectum, the bladder, or the urethra, or even above the symphysis of the pubis.

The womb is, also, the subject of other anomalies of shape; for example, the neck or body is obliterated wholly or in part, in consequence either of a primary organic vice or of an accident. Bichat, Lallemant, Leroux of Dijon, Buisson, Gardien, M. Lisfranc and

other authors have proved, as we have ourselves done, that the cervix may, in some persons, acquire a very considerable length and volume, and that sometimes, on the contrary, it is so small that its substitute seems to be a mere tubercle. Its position may, likewise, exhibit variations from the natural order of things, and it may be deranged by adhesions which tie one of its surfaces or sides too near the brim of the pelvis.

Specimens of faulty conformations of the vagina are as frequently met with as those of the womb. It may be wholly or partly wanting. The external orifice may be closed by a membrane that prevents the escape of the menses at the age of puberty, and gives rise to the most serious consequences. It may be absent as to its upper or middle portion, and not communicate with the womb. It has been seen to open into the rectum. But this deformity, which is always complicated with imperforation of the vulva, does not compromise the person affected with it, and it generally remains undiscovered till the menstrual discharge, taking place into the rectum, causes its existence to be discovered. In his *Treatise on Midwifery*, Barbaut, formerly king's surgeon at the Chatelet, has given the history of a girl who conceived by this passage, and was brought to bed without any other accident than the rupture of the sphincter-ani muscle.

In certain equally rare cases the vagina may open into the bladder, or into the bladder and rectum at the same time. This sort of anomaly, which, as well as the one last mentioned, is beyond the resources of the art, compromises the patient's life, and, like it, is rarely discovered until the menstrual period of life, when a monthly discharge from the bladder leads to a suspicion of the real nature of the case. It is quite a difficult task to avoid confounding it with the sanguineous exhalation from the interior lining of the urinary bladder, which is sometimes observed to take place as vicarious to the catamenial office of the womb in instances of absence of the uterus.

In some specimens the vagina has been found completely divided by a median longitudinal septum, directed vertically from before backwards; but, in such a state of things, the womb is, also, for the most part, found to be bilobate. Lastly, the canal, which may be wholly wanting in the subject, is found extremely narrow and short, and both of these anomalies may be either co-existent or not.

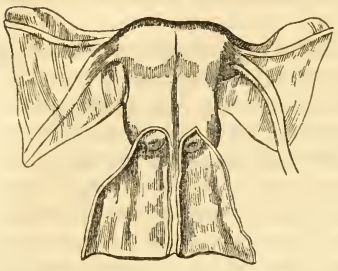
The clitoris, the labia and the nymphæ, either individually or all alike, do, in certain cases, acquire enormous size, or the external genitals may be wholly wanting, or may be coherent either by a single point of contact or throughout.

If the absence of the womb, the tubes and the ovaries, involves the consequence of barrenness, the absence of the vagina, its want of due length, its constriction and narrowness, are also in the way of the sexual union. Imperforation of the exterior orifice of the canal and cohesion of the labia may occasion serious consequences as to the discharge of the menses.

[I do not perceive any foundation for the fear expressed by M. Colombat of the obturator power of coherent labia, because, in all possible cases of such

cohesion, there must remain an exitus for the urine, which, as it escapes from beneath the triangular ligament of the pubis, it will always keep the labia from cohering to the troublesome extent supposed by the author.—M.]

Fig. 4.



The double cavity of the vagina, the tube, being divided by a median septum corresponding with a bilobate uterus divided, each form into a distinct cavity, and, duly provided with its appendages,might consist with the possibility of a superfœtation which, without such anomalous form, seems difficult to explain.

Adhesion of the neck of the womb to the vagina, as well as its occlusion, almost in every case prevents conception; and adhesions of the Fallopian tubes and the ovaries to the peritoneum also promote the formation of extra-uterine pregnancy, but much more commonly lead to barrenness. Lastly, any unnatural opening of the womb into the rectum, openings of the rectum into the vagina, and those of the vagina into the bladder, afford very reasonable explanations of certain anomalies observable in females, whether as regards the discharge of the catamenia, the emission of the urine, or the dejection of the alvine products.

Inasmuch as the congenital deformities of the female sexual organs are so numerous and varied, and as the principal part of them do not involve her life in any danger, we believe that we have spoken sufficiently in extenso upon the subject, the more especially as we shall, in the course of this work, have occasion to speak of them in greater detail, and to point out the surgical processes appropriate to most of them.

## OF THE SYMPATHIES OF THE WOMB.

In physiology and therapeutics we understand by the word *sympathies*, the relations of two or more organs, more or less near to or remote from each other, which have established betwixt them an association, by means of which the vitality of the one is modified by that of the other, whether that vitality be in a sound or in an unhealthful state. There is nothing more certain than is the existence of a bond of sympathy which communicates certain modifications of the vital state to one or several remote organs, from an impression received by some other organ. These modifications that are participated in by the intermediate parts, cannot be referred to the mere mechanical connection or to the common alliance of functions; but they appear to depend upon a certain peculiar organization, which causes all those parts to vibrate in unison, that are so arranged as to irradiate, of themselves, the impressions they receive, whether directly by nervous anastomosis, or indirectly by the intervention of the brain. In explaining the sympathies of the womb with most of these organs, we shall restrict ourselves to the statement of facts, without

going into an examination of their causes, since they are covered with a veil as impenetrable as that which conceals from us the real nature of the nervous power.

The ancients, who were ignorant of the sympathies of the uterus with other parts of the body, supposed that it was endowed with a special existence, and a temperament independent of the general constitution. They thought that the body, properly speaking, should be regarded merely as a cage, within which the uterus enjoyed the faculty of moving in any direction, and of affecting any organ to which it might proceed, while the latter could not exert upon it the smallest influence.

Among others, Plato says, "that the womb is a wild beast that obeys no reason, but which, when its desires are unsated, wanders about within the body and excites all sort of irregular motions."—(*Tim.* 500.)

The sympathetic phenomena of the womb, resulting from the organization of the female, are so evident, that it would be worse than absurd to call them in question. It is, therefore, indispensable, especially for the physician who, in his practice, is chiefly conversant with the diseases of women, to have, as far as possible, the most exact information as to the intimate relation of the uterus with the other organs, and with the reaction of these latter upon it. This study is of the highest importance, since the life of the patient may depend upon it. In fact, it sometimes happens that the only clue to a suspicion of uterine disease is to be found in the sympathetic phenomena. In all such cases that physician alone can make a sure diagnosis, and order a rational method, who possesses a perfect knowledge of the sympathetic irradiations of the womb.

It has happened that ulcerations or engorgements of the cervix, or even confirmed cancers of the organ, have been treated as cases of chronic gastro-enteritis, because they exhibited many symptoms of these disorders, which were in reality nothing more than sympathetic affections, results of the abnormal and pathological reaction of the womb upon them. It is generally not until they have had frequent and considerable hæmorrhage, and severe pain in the sexual organs, that women make up their minds to consult a more eminent medical man, who then, but often too late, learns the sad certainty of the nature of the case.

Many distinguished physicians, M. Lisfranc among others, have been consulted for diseases supposed to be nephritis, gastralgia, gastritis, enteritis, palpitation, active aneurism of the left ventricle, lumbago, sciatic or crural neuralgia, &c., which were, in reality, but the sympathetic reaction, and the symptoms of a disease of the womb, that might be perfectly made known by touching, by the use of the speculum, and especially by the disappearance of all the nervous phenomena, in consequence of the treatment and cure of the uterine affection.

We have ourselves been often consulted for cases of aphonia, produced by a sympathetic action of the womb, excited by a physical or physiological lesion of the organ. As in aphonias of this sort,

several cases of which are related in our treatise on diseases of the vocal organs, the larynx is generally found to be perfectly healthy in its appearance, it is only by a knowledge of the uterine sympathies that we are enabled to suspect and detect the cause, and the true seat of the malady. For the establishment of a good diagnosis in all these difficult circumstances, it is indispensable for us to know the nearly invariable connection that exists between certain kinds of pain and the affections of the uterine system. Instead of the sympathetic irradiations of the organ we are liable to combat only the symptoms, and not the disease that gives rise to them; and frequently allow, in spite of all the therapeutical resources of the art, a disease to become aggravated up to an incurable stage.

The sympathies and the connection that exist betwixt the womb and all the other organs, may be made manifest by the following described phenomena.

1. With the breasts: we shall prove it by the decided coincidence observed at puberty in their growth, in the development of the genital organs, and the first eruption of the menses.

No one is ignorant of the fact, that the sucking and titillation of the nipple by the young child is sometimes accompanied by sensations referred to the reproductive organs. Hippocrates was the first to notice the fact that the breasts of the pregnant woman become flaccid, when the fœtus dies, or during a uterine hæmorrhage; or that the suppression of the menses and of the lochia, or the distension of the womb by a mole, a polypus, by hydatids or any other foreign body, whose expulsion is effected by the contractions of the womb, are apt to produce a secretion of milk, and a full milk fever, like that which follows an ordinary parturition.

Women who give suck, and have an abundance of milk, are not commonly regular, have but little lochia, and are rarely subject to leucorrhœa, whereas those who lose their milk, and thus only half fulfil the obligations of the mother, are liable to the whites, to abundant lochial discharges, as well as copious menstrual effusions.

2. The sympathy of the womb with the stomach is rendered sufficiently manifest, by the qualms, the strange appetite, the nausea and vomiting, and by certain hysterical affections observable in some pregnant persons, and in others who have irregular menses, or some disease seated in the womb itself.

Its influence upon the stomach has been acknowledged by almost all the authors, and in particular by Rega, where, in his brilliant dissertation *De Sympathia*, p. 137, he says: *Ergo si ab utero laborante, plura stomacho contingant incommoda non est dubitandum quin ventriculo patiente pati debeat et uterus.*

The active sympathies of the womb upon the stomach commonly disappear about midway of the term of gestation, because the organ is at that period occupied with its own condition, and has no longer any excess of vital activity to infuse into other portions of the viscera.

3. The sympathy with the brain is perfectly evident. Do we not find that pregnant women, on the one hand, lose their memory, or, on the other, have it greatly strengthened; that their imagination is

much more lively, or that they become less intelligent; that they exhibit symptoms of insanity, that they wish to bite persons whom they really love, are prompted to homicidal acts, lose their reason, become maniacs, cruel, thievish, &c. &c.?

Has it not often happened that a violent fit of passion, a jealousy, a sudden fright, a violent impression on the mind, have arrested the flow of the menses or lochia, and suspended the secretion of milk, or at least changed the nature of the liquid, while the whites are increased by vexation or great distress of mind.

4. The cessation of a uterine catarrh, and the appearance of a bronchial catarrh; the disappearance of the latter following the appearance of the former; the dyspnœa, syncope, palpitation, oppression, spitting of blood, and, in short, a number of phenomena of this sort noticed in pregnancy, and during the existence of many uterine disorders, sufficiently prove the intimate connection between this viscus and the respiratory organs.

The change in the voice at puberty and at the close of the menses; the aphonia and dysphonia sometimes met with in pregnancy, and under some affections of the womb; the sensation often excited in the genitalia when a child or a lover imprints a kiss upon the lips, or merely touches any part of the body; the indigestion, borborygmi, colic, cephalalgia, toothache, tinnitus of the ears, and other symptoms supervening at different stages of pregnancy; the tumefaction of the belly before menstruation; the spontaneous vomiting and all the nervous phenomena that follow rupture of the womb in labour, or an operation performed on the organ; the cessation of an obstinate uterine catarrh from the application of a blister, or an issue to the arm; the suppression of uterine hæmorrhage by the application of a sinapism, or cup under the breasts, or the immersion of the hands or feet in cold water; the energy imparted to the womb in labour by the inhalation of acetic acid, by frictions with alcoholic liquors, or the application of cold to the belly; and a variety of other phenomena, both physiological and pathological, compose a group of proofs capable of establishing the reality of the sympathies and connections that exist betwixt the womb and all the other organs,* and prove the accuracy of these two aphorisms of Van Helmont—*Propter solum uterum, mulier id est quod est....femina omnem bis patitur morbem.*

An attempt here to explain the causes of the great influence of the womb upon the entire economy, would be to enter a labyrinth of theories easier to imagine than to unravel. Any researches made in

* Those of our readers who may desire fuller and more curious views of the sensibility of the womb, would do well to consult the works of Haller, Walter, Wm. Hunter, and especially the important work of Fred. Tiedemann, published in Heidelburg in 1822, under the title of *Tabulæ Nervorum Uteri*, fol. He has endeavoured to exhibit an anatomical demonstration of the manifest connections of the uterine nerves with the great ganglionic and encephalic system of nerves, in order to explain the sympathetic irradiations and the different *consensus* noted, whether during menstruation, conception, pregnancy, labour or suckling; whether in the physical and vital lesions of the uterus, in the hysterical affections and other troubles to which women are liable.

this direction would certainly tend only to prove still more conclusively, that man may ever seek in vain to lift up the veil that shrouds the impenetrable secrets of nature.

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## CHAPTER III.

EXAMINATION OF THE FEMALE ORGANS OF GENERATION, BY TOUCHING AND BY THE SPECULUM.

### OF TOUCHING PER VAGINAM.

The operation of touching is not so easy a matter as one might at first suppose; and it requires long practice and repeated trials, both upon the dead subject and upon living persons, to acquire the readiness that is desirable in discriminating between the various lesions that are found upon the interior genitalia.

As most modern writers, and the general treatises upon surgery, are wholly silent on this most important point in the diagnosis of sexual disorders, we conceive it will not be out of place to indicate the rules to be followed in touching, and the different modes of performing that operation.

The bladder and rectum having been emptied, the patient should lie across the bed with a pillow under her head thick enough to raise it a little higher than her hips. She should place herself so that the coccyx should project a few inches over the edge of the mattrass, while the feet rest upon two chairs about a foot apart. The operator, seated upon one of the chairs, carefully introduces the index finger, anointed with oil or dipped in mucilage, into the vagina, directing it backwards and somewhat upwards. The preparation of the finger and a gently rotary movement, render its introduction easier to him and less painful to the patient. If seated upon her right side, he should touch with his right hand, and *vice versâ*. Care should be taken to pare the nail, lest the vagina might be hurt by it. He might, also, if on any account preferable, place the patient lengthways in bed, in a dorsal position, the head and shoulders slightly raised, the feet drawn up near the body and resting on the mattrass, the knees moderately separated, so as to afford no obstruction to the operator's hand. To render the womb more accessible, and the introduction of the finger easier, and to avoid unnecessary awkwardness, the pelvis should be raised, either by the woman elevating it at his request, or by placing under it a cushion or a pillow. Every thing being arranged as now directed, he will place himself by that edge of the bed nearest to which the patient lies, and then turning himself towards her, let him pass his hand under her dress and betwixt the knees. Then let the operation be concluded as above directed. This mode of effecting the touch is particularly

applicable to cases in which it is necessary to examine the region of the hypogastrium by palpation.

There is a third method, which we prefer to the two now described, whether because it enables us to judge better of the weight, size, direction and elevation of the womb, or because it is less alarming to the delicate feelings of a person subjected for the first time to this trial. This method consists in placing her standing with her back against a partition, with her feet properly separated, and allowing her muscles to be as relaxed as possible. The surgeon kneeling on one knee, and pressing one hand on the hypogaster to force the uterus downwards, introduces the index, anointed with oil, upwards and backwards into the vagina, until he reaches the os tincæ, which, if natural, feels like a circular, firm and resisting ring, and giving rise to a sensation, as the elder Dubois judiciously observes, very much like that one experiences when touching the tip of the nose betwixt the cartilages.

After having fully examined the vagina, the operator should proceed to examine the cervix uteri as to its temperature, its form, its situation, the dilatation of its orifice, its sensibility, its volume, its consistence, and lastly, he should ascertain whether there be any ulceration of it, any erosions or fissures, roughness, exuberance, excrescences, vegetations, hæmorrhoids, varices, or any polypus occupying the whole or a portion of its circumference. He ought to be careful not to mistake for actual disease, the rents often met with in women who have had children; such solutions of continuity are nothing more than the consequences of those lacerations, to which the neck of the womb is liable during labour.

Having well examined the os tincæ, the operator ought to try, by pressing the finger as far as possible upwards betwixt the cervix and the surrounding parts, to ascertain the state of its surface. This information is best obtained by touching first with the one and then with the other hand, as, indeed, ought always to be done. The right hand explores the right side of the vagina, and the left side of the cervix, while the left hand operates in the inverse direction, and explores the opposite sides. When the state of all the parts has been sufficiently understood, and the successive steps of the inquiry carefully remembered, the hand should be removed as gently and speedily as possible, in order to avoid fatiguing the woman. The index should be seen for the purpose of learning whether it is stained with blood, a sign of organic lesion, provided the patient is not actually under her catamenial period. And lastly, for the purpose of more surely knowing the nature and colour of the blood and other humours brought away by the hand, it should be wiped with a napkin before washing the hands.

In a case where we are chiefly to examine the lower and anterior part of the vagina, the woman ought to be in a horizontal position, resting upon her knees and her hands. The position may be changed by requesting her to lie upon either side, as may be considered desirable, and according to the regions to be subjected to the inquiry

or the attitude that would be most likely to bring the deviated womb into a more favourable situation.

Although the touch is applicable to the vast majority of cases, circumstances arise that render it necessary to defer it, and even wholly to reject this excellent mode of exploring disease. Thus, we should avoid touching for several days before and after the menstrual term, and more especially during their flowing, because the womb, at that time, undergoes changes that might lead to erroneous conclusions. Touching ought not to be done either when the patient is subjected to severe pains, nor when the vagina is highly sensitive and irritated by the slightest friction. In such a case we should imitate the practice of M. Lisfranc, by curing this unnatural irritation by means of small bleedings at the arm to act as revulsives, and by the prolonged use of the bath, and by the semicupium and small anodyne injections. In fine, we ought to abstain from touching, or rather not repeat it, when we are sure that the malady is incurable, as we may know to be the case when we find the uterus large, botryoidal, and with a neck affected with vegetations, lacerations and holes that bleed at the slightest touch, and yield a noisome stench characteristic of the carcinomatous affections. All further search in such cases would be as useless as dangerous, for, in these desperate cases, each examination increases, and that without the least prospect of usefulness, the patient's sufferings, and often becomes the cause of a violent inflammation or a fatal hæmorrhage.

Although, as a general rule, we ought to examine early, we ought to recur to it as seldom as possible, and only in case of absolute necessity, and then always observing the utmost caution. This precept will not, however, be carried so far out as to deprive the attendant of all information required to note the progress of the disease, and the changes that may demand some modification of the therapeutical treatment. It is especially in the treatment of sexual disorders that the physician should endeavour to inspire the greatest confidence, for females submit to touching not without the greatest repugnance, and only when pressed by sufferings characterized by increasing violence.

## OF TOUCHING BY THE RECTUM.

Having completed the operation of touching per vaginam, should there be any remaining doubts as to the state of the womb and its appendages, and especially if any operation is about to be performed upon the parts contained within the cavity of the pelvis, the physician has within his power another excellent mode of exploration—one which throws a great deal of light upon the diagnosis of the diseases of women, and which is even better adapted than the vaginal touch for the investigation of the excavation and the organs contained within it. We allude to the mediate touch through the rectum, which ought not to be resorted to, however, when it becomes difficult on account of the presence of painful hæmorrhoidal tumours, spasmodic constriction of the sphincters, or, lastly, from certain diseases of the anus or the bowel. It is proper, however, to say that even

in the most difficult cases, when the examination by the rectum had been supposed in some sort impossible and completely contra-indicated, we have always been enabled to effect it with sufficient facility and without producing much pain. This we have brought about by introducing into the anus, an hour or two before the operation, a suppository of *beurre de cacao* with which had been incorporated half a grain of extract of opium and the same quantity of extract of belladonna.

But where there is no obstacle to the introduction of the index, the bowel having been first emptied by means of an enema, we proceed as in the vaginal examination, but more gently, so as better to overcome the resistance of the sphincters. Without this precaution the patient often suffers from a sort of constriction and a painful tenesmus that will not admit of the operation being long continued.

One thing ought not to be lost sight of: I mean that we should follow the curve of the rectum until the index has reached the sacro-vertebral angle; care should also be taken to place one hand on the hypogastrium, for the purpose of pressing the bladder down upon the pubis and the womb towards the lower part of the pelvis. By this mode we are enabled not only to examine the state of the back part of the womb, but even to learn the state of the broad ligaments, the ovaries, the tubes, and, in fact, to ascertain, when it is not to be found in the excavation, the existence of some pathological lesion, some carcinomatous mass, contra-indicating any operation which, in such circumstances, could by no means save the patient's life. An example of this sort we witnessed in a patient at La Pitié, on whom M. Lisfranc had operated for amputation of the neck of the womb, eighteen days before. The dissection disclosed a carcinomatous mass, which embraced the lumbar portion of the vertebral column and contained some encephaloid matter.

The touch by the rectum is the best means of investigation for the volume and the obliquities of the womb, where this organ does not rise above the symphysis of the pubis. It is also the best mode of ascertaining the existence or absence of the womb in cases of imperforation or total absence of the vagina.

### OF PALPATION ABOVE THE PUBIS, OR TOUCHING AT THE HYPOGASTRIUM.

If it be desirable to inquire into the condition of all the exterior surfaces of the womb, there yet remains to be performed the surpubal or hypogastric touch, which is effected by placing the patient on her back, the head supported, the shoulders slightly raised, the thighs flexed, and the feet resting upon the mattrass, so as to allow to the abdominal muscles the greatest possible relaxation. Except when absolutely necessary to examine the uncovered surface, the chemise should be the only part of the dress left to conceal her skin. The operator's open hand should be placed upon the hypogastrium, at first transversely and then vertically, so as to press the abdominal parietes, and, by gentle movements in a transverse direction, should

be made to push the bladder downwards and the bowels upwards, so as to reach at last the womb itself, which is felt to be a solid and movable body. With the tips of the fingers the womb can now be examined on its anterior surface and a knowledge obtained of its volume, shape, consistence, mobility, and its connections with the surrounding parts; and, lastly, by examining also the iliac fossa we can determine whether the tubes and ovaries are diseased, as by tumour or other malady not otherwise to be ascertained.

In order to obtain the utmost certainty in the diagnosis of the sexual disorders, and to prevent the mistakes and dispel the doubts to which the similarity of their symptoms, notwithstanding the great differences in their real nature, might give occasion, we must not rest contented with the operation of touching alone, though we ought always to begin by that. It is necessary, on many occasions, to add to this excellent means of exploration, the use of the *speculum uteri*, which allows us to judge of the malady by inspection, and yields an almost mathematical certainty as to the determination of its nature. It is by the aid of this instrument that we are enabled rigorously to appreciate the volume, shape, colour and appearance of the affected parts, and thus being in full possession of the facts as to the actual situation and existence of certain lesions, inappreciable by the touch, we are naturally in the right track as to those therapeutical indications whose efficacy is established on the grounds of experience.

## OF THE SPECULUM UTERI AND THE MANNER OF USING IT.

If we meet with much difficulty in persuading the patient to submit to the operation of touching, it is easy to conceive what care is necessary to render as little distressing as possible, the sacrifice that a modest woman makes on the score of delicacy, when she is led to expose to the physician parts that she always conceals with the greatest care.

In cases where the external genitalia are to be examined, the patient should lie across the bed, or be seated in an easy chair or on a sofa, with the knees well separated, and raised upwards in the former case by two chairs, and in the latter by pillows. The surgeon being before her, kneeling on one knee, will examine, in the first place, the perineum and the labia, then separating them, he will ascertain the state of the mucous surface, the clitoris, the vestibule, the nymphæ, the orifice of the urethra, the anterior and inferior portions of the vagina, and, in fine, all the folds of the vulva, which may conceal small ulcers that it is important that he should discover.

If it should seem desirable to subject not only the vagina, but also the neck of the womb to the same scrutiny, it will be found, as before remarked, indispensable to make use of the *speculum uteri*, by means of which the walls of the vagina may be separated, and the os tincæ itself brought into view.

This vaginal dilater, to which so unfit a name has been given, and which we should prefer to call a *hysteroscope*, were it not that we fear the imputation of being neologists, has been subject, since its

introduction into practice, to numerous changes, an historical sketch of which we propose to give, before pointing out the method of applying it.

The invention of the *speculum* is of the highest antiquity, and it would be difficult to give the name of its inventor, or the period at which it was first made use of. According to Aetius,* Archigenes, of Apamea, in Syria, who settled in Rome under the reign of Domitian, was the first to make known the instrument in question. In a translation of Paulus Æginetta by Rondelet, the author, in the article *phymosis* in females, says, *L'instrument appelle* διοπερα, *estant introduit fermé dedans la vulue, après soit tourné pour l'ouvrir, affin que les conjonctions du-dit instrument soient eslargies, et la cauité de la feme soit distendue.* The speculum that Paulus Æginettat speaks of was composed of two branches that were made to act by means of a screw. Avicenna,‡ who died about A. D. 1036, who had received the title of Prince of Physicians, and who, by the Arabs, was considered a second Galen, and Albucasis,§ who died A. D. 1122, have described, under the title of *vertigo*, two kinds of *speculum uteri*, with three branches, that were made to separate from and approach each other by means of a screw handle. These instruments are figured in the work of Andreas de la Croce.‖ Spachius,¶ the author of a collection of writers on diseases of women; Franco,** who first performed lithotomy by the high operation; Paré,†† Scultetus,‡‡ Garengeot,§§ and several other authors of the last century, have likewise published different sorts of jointed speculum, with two or three branches; but these instruments, which were for the most part inconvenient, had fallen into disuse, when Professor Recamier revived the use of them by demonstrating their utility in the exploration of the genital organs. The instrument that was first used by that excellent practitioner was extremely simple, and consisted of a tin tube, the uterine extremity of which presented a circumference with rounded edges, which admitted of its embracing the neck of the womb, without risk of injuring it. The instrument, which was too long, and conical, and beveled at its vulvar extremity, was modified by M. Dupuytren, who shortened it to the length of the vagina, and added a handle, by means of which it could be more firmly held and more readily introduced. Professor A. Dubois, for the purpose of adopting it to the exploration and treatment of vaginal fistulas, added a notch or slit near its superior extremity.

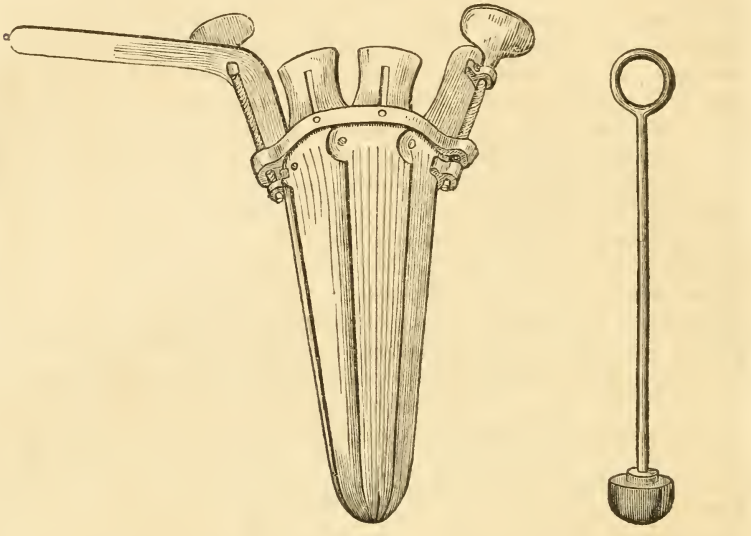
Since that time the speculum has been modified by Madame Boivin, Messrs. Lisfranc, Weis, Deyber, Ricque, Guillon, Bertze, Joubert, Thompson, Ricord, and especially by M. Charriere, the distinguished cutler of Paris, who has invented several different kinds, of which we shall have occasion to speak in the course of this work, and of

* Lib. iv. cap. 86. † Lib. iii. cap. 66. ‡ Tract. iv. cap. 3.
§ Lib. ii. cap. 77. ‖ Officina Chirurgica, p. 39. ¶ Gynœciorum, 1597.
** Traité des Hernies, &c., et autres Maladies, &c., 1651.
†† Les Œuvres d'Ambroise Paré, Liv. xxiv. chap. 86. Paris, 1585.
‡‡ Armamentar Chir., Tab. xl. p. 153. Ven. 1668.
§§ Nouveau Traité des Instruments de Chirurg., tom. i. pl. 28. Paris, 1723.

which, as well as of the other, we shall give a description and figures in our *Dict. Histor., et Iconographique* of all the chirurgical instruments and operations.

In our memoir on amputation of the neck of the womb, published in 1828, we gave a description and figure of a speculum with six and eight branches, which we had invented in 1827, and which we again represent in this work. This instrument, of a conical shape,

Fig. 5. Fig. 6.



with the base at the handle when closed, and at the other extremity when opened, may be introduced when of a small size, and opens only near the os uteri, when it abundantly separates the parietes of the vagina, so as to afford space to act freely where some operation is required. To use the instrument, it must first be fitted with its end-piece, which is of an oval shape. This end-piece, which is of steel, polished like the rest of the speculum, whose cone it completes, receives the branches of the instrument in its concavity, which facilitates its introduction and obviates the pain which the inequalities of the point of the speculum might otherwise produce.

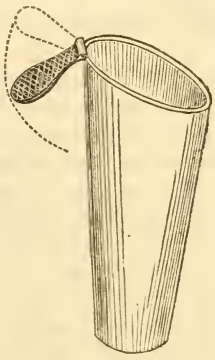
When the speculum has passed through the vulva, and is sufficiently deep within the vagina, the end-piece is disengaged by pushing it a little forwards by the handle, and is then withdrawn by slightly opening the instrument so as to give it room to pass out easily. The instrument may be opened by turning the screw which pulls the ring towards the immovable base of the cone formed by the shut speculum. Having laid the end-piece aside, the speculum is completely introduced, opening the branches gradually as it goes forward.

This speculum is particularly convenient in effecting the excision of the cervix uteri, because in every one of its diameters it produces

great dilatation only near the womb, which greatly facilitates the operation by the methods which we shall explain. M. Velpeau does not do justice to it in saying that it is apt to pinch the vaginal mucous membrane, for it is so formed that such an accident can by no means happen.

In cases where a simple exploration is required, we make use of M. Recamier's speculum instead of our own, above described. It consists of a conoidal tube of tin or silver, to which I have added a handle, with a joint an inch in length, and turning backwards towards the body of the instrument. The speculum thus modified is very convenient and portable. To a great simplicity of construction it joins the advantage of being easy of application, and of showing better than other instruments the cervix by reflecting the light upon it. Besides, as it is whole, the mucous membrane of the vagina cannot mask the os uteri, as in other appliances it is said to do, by intruding itself betwixt the open branches of other speculums composed of several pieces. Such a difficulty, which really does not exist, since the vagina is stretched when the speculum is *in situ*, would readily disappear by giving to the instrument a few slight rotary motions, first in one direction and then in the other.

Fig. 7.



But whatever kind of speculum it may be that is to be used, the following rules ought to be observed in order to proceed properly to its application. The patient should lie upon her back across the bed, with the hips near the edge of it, her feet being supported upon two chairs, the thighs widely separated. The pelvis, somewhat higher than the head, should be firmly supported, and should project a little beyond the margin of the mattrass. Every thing being thus prepared, let the surgeon proceed to introduce the speculum, after having warmed it a little and anointed it with oil or mucilage to render its insertion easier and less painful to the patient. Then, having separated the labia externa and interna with the thumb and index of the left hand, let him direct the point of the instrument to the orifice of the vagina, holding it so as to make with the canal an obtuse angle posteriorly. With gentle efforts and slight rotary motion the speculum, which ought to bear most upon the posterior wall of the vagina, will readily pass upwards to the os tincæ, pushing before it the mucous membrane which forms a sort of circular cushion or fold that very much resembles the neck of the womb. He must take care not to mistake it as such, and be cautious in inserting the speculum gently, so as not to bruise the parts he wishes to examine.

When the os uteri has been brought into view, care should be taken not to press it backwards, because, in that case, the body of the womb would take a position as in a kind of anteversion, which would render it impossible to examine the os tincæ; and the farther

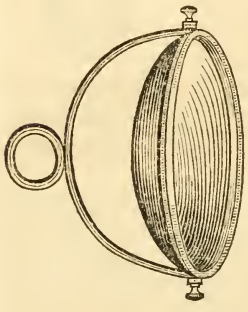
the speculum should be pushed the more difficult would it become to examine the parts—and this is the reason why it has been rejected and abandoned by several surgeons as a useless instrument—the fact being that they did not understand the use of it.

For the purpose of correcting the position of the cervix and compelling it to project within the end of the speculum, we invented a kind of concave lever, by means of which the os tincæ can be drawn forwards. This instrument, which is more easy of application than Madame Boivin's fenestral spoon, which is too broad, has, at the other end of it, a forceps with a slide for the purpose of holding a bit of sponge, a portion of charpie or a linen tampon, either to cleanse or cauterize the os tincæ according as the indication may be.

Fig. 8.

Having reached the bottom of the vagina, in order to increase the saliency of the cervix the patient should be told to bear down, with expulsive efforts as if on the close stool. When the cervix is perfectly exposed, it should be cleansed with a bit of sponge or some parcels of lint fixed in the forceps of our lever, or upon our four-branched forceps; all the mucus that has been pressed upwards about the os uteri ought to be carefully removed, to admit of a perfect inspection. This is obtained by the light of a taper placed betwixt the orifice of the vagina and a metallic mirror, which we invented and denominated the *hysteroscope*, and which throws an abundant light to the very bottom of the speculum. The rays of the taper, being reflected from the mirror, form a luminous cone by their convergence, the apex of which falls upon the neck of the womb. In this way we may make sure of a perfect exploration of the diseased organ, and of discovering certain alterations which, but for the reflection, could never be ascertained.

Fig. 9.



It ought here to be remarked that the choice of the metal for the speculum is not a matter of indifference. Those of silver, tin or polished steel are to be preferred. It is especially advisable to avoid such as are composed of two metals, as, for example, the plated ones, for we have observed that the use of such was painful, because the contact of two metals and the acid mucus of the vagina give rise to certain voltaic phenomena that were capable of a considerable reaction upon the womb.

But, whatsoever be the nature of the speculum, the use of it should always be governed by the rules above laid down, observing always that the handle should be upwards, lest it might give trouble by catching against the bed-clothes if turned in a downward direction.

Although the utility of the speculum is incontestable for a great many kinds of cases, there are, as in the operation of touching, some

circumstances that ought to induce us to defer or even wholly to reject it. For example, cases of acute inflammation of the vagina; contractions of the passage in elderly persons and in young virgins; membranous bands across the vagina; the hymen; and all the reasons for deferring the touch are equally applicable against the employment of the speculum, until all the counter-indications have been removed by proper precautions or operations.

The instrument should be absolutely prohibited in all cases of deep ulceration of the cervix and vagina, as endangering the production of serious lacerations and hæmorrhages. It is also useless, and even dangerous, where, by the touch, the existence of extensive carcinomatous vegetations, or a large fungus of the cervix has been ascertained. Lastly, in *all* cases, before proceeding to the examination of the internal genitalia, the rectum should be emptied by means of an enema, for the purpose of getting rid of all extraneous obstacles or sources of error in the examination.

Notwithstanding the use of the speculum is always, at least for respectable women, a serious sacrifice of their delicacy, such a consideration ought not to arrest the medical adviser, when he has reason to suspect the existence of some lesion, whether actual or only threatening to become serious. He ought, therefore, to insist upon his purpose, and endeavour to persuade them to submit to the examination, though so repugnant to their feelings. It is in such cases that he ought to inspire the greatest confidence, and by gentleness and good conduct, so perform the operation, as to lessen, as far as practicable, the moral and physical distress that are the ordinary accompaniments of these inquiries.

We shall not close this chapter without remarking that among the different means of exploring the uterus, reliance is placed upon the stethoscope, which Foderé, Major, and especially Kergaradec, have proposed for the auscultation of the fœtal pulsations, and to discriminate thus betwixt pregnancy and a variety of disorders that occasion enlargement of the womb, such as dropsy, tympanitis, &c., of the organ. The instrument which we have rendered more convenient and portable, by constructing it with tubes that slide one within the other, like a spy-glass, ought to be applied betwixt the anterior margin of the pelvis and the level of the umbilicus, being placed higher as the pregnancy is more advanced. The patient should be examined while lying down.

The fœtal heart, which sounds at each pulsation, beats 100, 140 or 150 times a minute, while the mother's heart beats only from sixty to seventy-five times. These sounds are the certain signs, not only of pregnancy, but of the life and health of the fœtus; the latter being judged of by the force and frequency of the beats. Fœtal pulsations, very manifestly perceived, yet coinciding with very little development of the womb itself, would be in proof of the existence of extra-uterine pregnancy. However, the absence of the pulsations like that of the active and passive motions of the child, are not conclusive proofs as to the life of the child, or even the fact of gestation. As the employment of the stethoscope, in this case, is to be looked upon

rather as an obstetrical than as a medico-chirurgical exploration, we may properly dispense with more extended observations upon it, merely adding that the *metroscope* proposed by M. Nauche, for hearing the sounds and appreciating the movements that are to be distinguished in the vagina and womb, is, in our opinion, a much less trustworthy means than the stethoscope, properly so called.

[M. Colombat appears to me to have passed very hastily over his remarks upon auscultation as an obstetrical resource, and it seems barely justice to the reader and to a distinguished gentleman, Dr. Evory Kennedy, of Dublin, to mention his work on the signs of pregnancy, a little volume that has added much to the facility of acting with prudence as well as knowledge in certain doubtful cases. The use of the stethoscope, or of immediate auscultation, is become a resource of the most indispensable kind in the conduct of labours, and in settling questions of pregnancy. It is not to be doubted that the use of the stethoscope may, in some cases at least, enable us to detect the sensible signs of pregnancy, if the child be alive, as early as the end of the fourth month of gestation. By its use, also, we may be very correctly determined as to our course of action, since it reveals with clearness the state of the child's circulation. Now, if we find that the pulsations of the child in utero are becoming dangerously disordered, either by excessive precipitation of the heart's action, or extreme feebleness, irregularity or slowness of the same, it is manifest that we have possession of the means of deciding whether the security of the infant demands our intervention, in the way of some obstetrical operation, as the use of the forceps, &c. So, also, where, in a bad labour, we have repeatedly recognized the situation and activity of the fœtal heart, if upon carefully seeking in vain for them in the same place, it being impossible for them to have changed their place, we have the elements of an *opinion* as to some operation of cephalotomy, &c., which we might have been highly inclined to perform, but from our respect to the rights of the fœtus—rights which cease with the cessation of its life. Doubtless, also, by means of auscultation, we may gain great light as to the diagnosis of position, to the saving for the patient much of that distress or pain that an exploration with the whole hand could not fail to give; an exploration now often unnecessary, by the gentler intervention of auscultation.

In the diagnosis of pregnancy from dropsy, and various other forms of disease, which, by their exterior physiognomy, so closely simulate several stages of gestation, the methods by auscultation are invaluable. M.]

# CHAPTER IV.

## GENERAL CAUSES AND SYNOPTICAL TABLE OF DISEASES OF FEMALES.

It would be easy to explain why the sexual organs of the female are more subject to disease than those of men, by reflecting that her share in the act of reproduction, which is vastly greater than that of the male, imposes upon her organs of generation a most painful function, and that in her the different parts of the reproductive functions are numerous and protracted.

There are a variety of circumstances to be regarded as deviations from the design of nature, and which are the most ordinary causes of various genital affections. Among them we may cite the state of celibacy, continence, *abusus coitus*, the too frequent provoking of erotic spasms, sterility, laborious labours, abortions, drying up the milk, &c. If it be true that, in the higher classes of society, and especially in the great capitals, we meet with a greater number and variety of the diseases of females than in country places and amongst the less exalted ranks, it is doubtless owing to the latter being less under the influence of the perturbing causes which accumulate in and are perpetually renewed as to the females who live in a state of opulence.

As the womb is an organ upon which most of the impressions, both physical and moral, made in the female, are reflected, we ought to count among the most common causes of uterine diseases in great capitals, particularly at Paris, the insalubrious nature of the air, disregard of the laws of hygieine, protracted vigils, cold and astringent cosmetic lotions for the vulva during or soon after the menses, the use of foot warmers, the abundance of exciting dishes, the immoderate use of ices and sherbet, and of coffee; great political excitement and commotions, secret manœuvres, illicit enjoyments, the distracting and oft-repeated emotions excited by theatrical representations and the reading of works of fiction; jealousy, disappointed love, loss of fortune, domestic chagrin, joy too strongly felt, frequent fits of passion; and, in a word, all the violent passions and every species of mental shock.

It is easy to perceive how all these causes must be more powerful in their pernicious influence among city women, and especially those of the elevated class, because, as they are in general more nervous, more impressionable, and endowed with the liveliest imagination, they are, by that very circumstance, most prompt to take the alarm, on account of their own families, and sometimes on account of persons who are strangers to them. The consequence of their social position and the modifications resulting from their habits and manners, ren-

der their sensibility and delicacy very frequent causes of grief and distress.

In country women and among the common people the affections of the sexual organs often depend upon totally different causes. For example, a residence in marshy countries, a damp and badly-lighted dwelling-house, violent bodily exertion, blows, falls upon the buttocks, atmospherical vicissitudes, cold feet, the continued use of coarse food and alcoholic drinks; sitting on the grass or on the ground, or a stone bench, immersion of the hands or feet in cold water; the use of emmenagogues taken with criminal design; meddlesome midwifery, continued employment at sedentary labour in cellars, or in low damp workshops, lifting heavy weights or carrying heavy burthens for a long time for sale in town; finally, rage, libertinism, drunkenness, filthiness and a variety of other causes, both physical and moral, too tedious to mention here.

The change of life is also a frequent source of sexual disorders, inasmuch as the cessation of the menstrual discharge determines towards the pelvis a congestion giving rise to uterine hæmorrhage and organic alterations which tend to become very serious when left to themselves. It is at this period of life that we may, with Horace, say:—

> Multa ferunt anni venientes commoda secum,
> Multa recedentes adimunt.

The first effect of disease of the womb is to produce a prompt reaction upon both the physical and the moral nature of the female. She becomes sad, melancholy, restless and susceptible, and troubled with sinister presentiments. Those who live in a state of opulence withdraw from society, or rush into the vortex of company, as if to escape from an evil that they fear without understanding it, and which, from a sentiment of false delicacy, they permit to become so aggravated that it unhappily, too often, gets beyond the reach of art. Those particularly who are attacked with carcinoma of the cervix uteri soon find that their beauty and freshness are gone, and that the malady, which increases *pari passû* with their sufferings, both wrinkles and fades them

> Comme un fruit dont le cœur est rongé par un ver.

From this succinct enumeration of the general causes of female diseases we should gather the notion of how much prudence and sagacity are required in governing the health of an organization so delicate and so mobile, and into what depths of the heart the physician ought to seek and detect the principle of so many unnatural shocks, so as to put in motion the springs of a sensibility as inconstant as it is flexible.

In order to facilitate the study of the lesions of the genitalia, and to group them, as far as practicable, according to the natural order they ought to occupy in a general system of pathology, of which they constitute but a trifling portion, we have made a classification in which we divide them into six sections:—as, 1. *Lesions of form and development.* 2. *Lesions of situation.* 3. *Physical lesions.* 4.

*Vital lesions.* 5. *Lesions of functions.* 6. *Lesions appertaining to reproduction.*

Although we might be disposed to look upon this classification of female diseases as more rational than those proposed by our predecessors, we are far from deeming it perfect and unattackable. But we are somewhat reassured, in regard to its imperfections, by the consideration that there is no perfect classification in pathology; and further, that all writers on female disorders have, like ourselves, met with some shoals which it is impossible to avoid.

*Synopsis of the Diseases of Females.*

I. Section. *Lesions of Form and Development.* — *Comprising all cases of vicious conformation, whether congenital or accidental, of the sexual organs and their appendages*—among which we enumerate absence of the labia, cohesion of the labia, excessive magnitude of the nymphæ, cohesion of the nymphæ, excessive development of the clitoris, imperforation and stricture of the urethra, absence of the vagina, contraction of the vagina, narrowness of the vagina, obliteration of the vagina, imperforation of the vagina, obturation of the vagina, congenital opening of the vagina into the rectum or bladder, absence of the womb, bifid womb, incomplete development of the womb, congenital occlusion of its neck and its accidental obliteration, and, lastly, imperforation of the Fallopian tubes.

II. Section. *Lesions of Situation.* — *Comprising all cases of displacement and deviation of the genito-urinary organs of the female*—among which we arrange hysteroptosis or prolapsus of the womb; anteversion, retroversion, anteflexion, retroflexion, inversion, obliquity, elevation and immobility of this organ; hysterocele and all the hernias of the womb and ovaries; vaginal cystocele and enterocele; vulvar enterocele and cystocele; prolapsus of the urethral mucous membrane; prolapsus of the lining membrane of the vagina, and invagination of the canal.

III. Section. *Physical Lesions.* — *Comprising all cases of lesion of continuity, and the accidental introduction of foreign bodies*—among which are found wounds, contusions and lacerations of the vulva, the fourchette, the vagina, the uterus, and the rupture of the womb; vesico-vaginal, urethro-vaginal and recto-vaginal fistula; and, lastly, foreign bodies accidentally introduced into the genital cavities.

IV. Section. *Vital Lesions.* — *Comprising the phlegmasia, the transformations, and all the pathological products and degenerations of texture*, such as phlegmon, carcinoma, œdema, cysts, varix, fibrous and sanguine tumours of the labia. Inflammation and fungus of the nymphæ, carcinoma of the clitoris and meatus urinarius, erysipelas, prurigo, venereal chancres and syphilitic excrescences of the vulva, acute vaginitis, chronic vaginitis, and all the white discharges; acute and chronic metritis, uterine phlebitis, ulceration, excoriation, fungous tumours and engorgement of the cervix uteri; scirrhus, cancer, carcinoma, putrescence, softening, dropsy and tympanitis of the womb; metrorrhagia, polypus, fibrous tumours, calculus, hydatids, sanguine and lymphatic concretions formed in the cavity or in the substance of the womb; scirrhus, cancer, encysted tumours, and dropsy of the ovary; and lastly, cancer of the breast.

V. Section. *Lesions of Functions.* — *Comprising the neuroses, neuralgia, and functional derangement of the female organs of generation*, such as cessation of the menses and all the sympathetic phenomena of the change of life. Hysteria, nymphomania, false pregnancy, hysteralgia, anaphrodisia, inertia of the womb, mastodynia, chlorosis, dysmenia, amenia, amenorexia, amenorrhœa, dysmenorrhœa, menorrhagia, menostasis, and all the anomalies of menstruation.

VI. Section. *Lesions appertaining to Reproduction.* — *Comprising the accidents and all the sympathetic phenomena of conception, pregnancy, labour and lactation,* among which are false germs or moles, extra-uterine pregnancy, abortion, strange appetite, anorexia, odontalgia, ptyalism, convulsions, vomiting, nervous cramps of the stomach, nervous colic, constipation, diarrhœa, tenesmus. dysuria, ischuria; the hernias which sometimes complicate pregnancy; dyspepsia, cough, hæmoptysis, hæmatemesis, epistaxis, sanguine plethora, palpitations, syncope, varices, hæmorrhoids, œdema of the limbs, cephalalgia, vigils; neuroses of sight, hearing and smell; neuralgia of the loins, kidneys, groins, pubis, labia and thighs; contusions and lacerations of the genital parts; inversion of the womb and vagina, puerperal peritonitis, milk fever, phlebitis of the uterine and ovaric veins, of the inferior cava and the crural veins; neuritis of the sciatic, crural and sub-pubal nerves; painful œdema, phlegmonous abscess of the mons and labia, of the psoas and iliacus muscles; absence, diminution, suppression or excess of the lochia; miliary eruption, polygalactia, agalactia, retention of the milk in the breast, involuntary flow of milk, alterations of the milk; and lastly, mammary abscess, mammary fistula, cracks, excoriations, flattening, imperforation, absence and multiplicity of the nipple.

# FIRST SECTION.

## CHAPTER V.

### LESIONS OF FORM AND DEVELOPMENT.

Vicious conformation, congenital or accidental, of the female genitals.

Though there may exist cases of vicious conformation of the female genitals that are beyond the resources of our art, such as absence of the womb and vagina, opening of the vagina into the bladder or rectum, imperforation of the Fallopian tubes, absence of the ovaries, &c., &c., there are others susceptible of remedy, and not a few such—as, for example, the complete or partial cohesion of the labia or the nymphæ; their excessive length; too great a development of the clitoris; occlusion of the meatus urinarius; imperforation, obliteration and obturation, and congenital or accidental narrowness or stricture of the vagina; and, lastly, occlusion of the neck of the womb.

#### OCCLUSION OF THE SEXUAL ORGANS.

The occlusion of the female genitals, which has been noticed from the remotest antiquity by the Greek physicians,* was, by the Latins, (Celsus, lib. 7. cap. 28, Ætius, lib. 16. cap. 97.) called *clausura*, and by the Arabians, (Avicenna, 21. 3. tract. 4. cap. 1, and Albucasis, lib.

* Girls who exhibit this faulty conformation received from the Greeks the epithet of ατρητοι—among the Romans they were called *imperforatæ clausæ velatæ;* Cicero (*de Divinat.*, lib. iii.) speaks of a dream in which was seen a woman *quæ obsignatam habebat naturam;* and Pliny relates that Cornelia, the mother of the Gracchi, was born with an imperforation of the sexual parts—*concreto genitali nata fuit.* (*Hist. Natural.*, lib. 7. cap. 16.)

2. cap. 72,) *alratica;* it is the *phymosis* of Galen and Paulus Æginetta, (Paulus Ægin., lib. 3. cap. 73. and lib. 6. cap. 71 and 72;) the *phymon* of Ambrose Paré, (Ambroise Paré, liv. 4. chap. 59. p. 998,) and, in fine, has, by most of the modern French writers, been designated by the words *atretism, atresia,** *imperforation.*

Although the words union, imperforation, obliteration and obturation are not synonymous, and present totally different ideas to the mind, one of these expressions is often used to designate an occlusion of the genitals, whatsoever may happen to be its seat, nature or causes.

In order to establish a more exact division, and give to the words union, imperforation, obliteration and obturation the true sense and meaning they ought to express, we shall distinguish them in the following manner:

We shall use the word union to express the congenital and accidental coherence of the labia and the nymphæ.

The words imperforation, atretism, atresia imperforatio, atresia, will indicate the occlusion of the inferior and anterior part of the vagina; which may be either complete or incomplete, accidental or congenital; and which may depend either upon the presence of the hymen or any other imperforate membranous fold, or upon cellular or cellulo-fibrous bands situated in various parts and at different heights in the canal of the vagina.

The word *obliteration,* from the Latin word *obliterare,* will express not only the accidental constriction of the vagina, but also the coherence of its walls throughout its entire length, or in its middle, or towards either extremity. The obliteration, which is *always accidental,* may, therefore, like the imperforation, be either complete or incomplete.

Lastly, the word *obturation,* from the Latin *obturare,* will indicate the more or less complete occlusion of the womb or of the vagina; which may, when it is accidental, be occasioned by excrescences, by polypus, by hydatids, by tumours of different sorts; or, when congenital by means of some intermediate substance of a fibrous, cellular or cellulo-fibrous nature.

The occlusion of the genital organs of the female, whatever be the nature and cause of it, is the more especially deserving of the attention of the practitioner, inasmuch as it obstructs the exercise of several important functions, and may often compromise not only the health but the life and the reputation of the patient.

As this subject has been but little studied, and mention is scarcely made of it in works treating of female diseases, we shall dwell upon it at greater length than has been done by our predecessors upon the history, etiology, differential signs, diagnosis and treatment of the various primary and accidental occlusions of the sexual organs. We shall also, in the same chapter, treat of all the faulty conformations, whether congenital or whether developed after birth and at all the periods of life.

* From the Greek priv. *a,* τρητος, *without opening.*

## OF THE UNION OF THE LABIA AND OF OTHER FAULTY CONFORMATIONS OF THE VULVA AND ITS PARTS.

We sometimes find that female children are born with a more or less complete cohesion of the labia, so that these bodies are united in the whole or in a part only of their length. When the cohesion is complete nothing can be seen but a sort of raphe or seam, without any trace of clitoris or vagina, or urethral orifice. The labia, which are prominent, constitute a soft, elastic, fluctuating tumour, and there is found above the pubis a rounded elevation occasioned by the accumulation of the urine in the bladder, and which is very painful upon the least pressure.

This complete absence of the genital fissure, the result of a congenital deformity, is announced soon after birth by the continual cries of the child, and by all the signs proper to a suppression of urine. In such a case death is the inevitable consequence if measures be not taken to re-establish the natural openings.

In some cases where the vulva is not imperforate through its whole length, the urethra is sufficiently open to give issue to the urine; in others, the fluid escapes drop by drop, and with greater difficulty in proportion as the cohesion of the labia is more or less extensive, leaving more or less liberty to the orifice of the meatus urinarius. In the former case, that is, where the urine escapes freely, the infirmity under question does not interfere with the health of the young girl, and it is not until the period of puberty that it gives rise to the disorders caused by retention of the menstrual fluid, concerning which we shall have to treat in a future chapter.

Where the partial union of the labia affects the lower part of the vulva, there is always a discharge of urine into the vagina, which, by its accumulation there, may produce mischievous effects, such as ulceration of the walls, fistulas of the rectum and perineum, and a multitude of other accidents.

Schultz, (*Miscel. cur Germ.*, obs. 3. Decemb. 1. anno. 10,) relates that a little girl, four years old, had been unable, since her birth, to discharge the urine except drop by drop, and that with extreme pain and difficulty. The parents, supposing she had a stone in the bladder, consulted a surgeon, who discovered an almost complete union of the labia. He destroyed the adhesion and established the free course of the urine by means of an incision with a convex-edged bistoury.

The lesion, whether complete or partial, of the labia is not always congenital; it may depend upon certain accidental disorders; thus it is sometimes occasioned by acute inflammation of the vulva either attacking spontaneously, or brought on by the effects of laborious labour,*

* Marcellus Donatus, *De Med. Histor. Mirab.*, lib. 6. cap. 2; Riolan, sen., art. *bene medendi*, sec. 4. tract. 2. cap. 1; Felix Plater, *Obs.*, lib. 1. p. 258; Casp. Bauhin, *Theat. Anatom.*, lib. 1. cap. 39, and *De Hermaphroditis*, lib. 1. cap. 38; Fabr. Hildan, *Obs. centur*, lib. 6. obs. 67; Riolan, jun., *Enchirid. Anat.*, lib. ii. cap. 37, and *Anthropograph.* lib. 2. cap. 35. p. 197; Th. Bartholin, *Hist. Anatom., centur*, ii. histor. 31; Rudolph Jacob Camerarius, *Misc. Nov. Curios. German., centur*, 9, 10. obs. 73; J. Conrad Beckerus, *De Inculpata*, § 18, and seq.; Roonhuysen, *Obs. Chirurg.*, obs. 2. p. 125; Heister, *Institut. Chirurg.*, tom. ii. p. 9. 52.

of a burn,* of a venereal affection,† a wound or a laceration.‡ It may likewise depend upon the long-continued friction of any hard substance;§ upon frequently repeated coitus;‖ upon excoriations produced by the acrimony of the urine in children yet wearing the

* G. de Sorbait, *Eph. Curios. Nat. de Cur.* 1. ann. 3. obs. 273, and Chambon, who, in his *Traité des Maladies des Femmes*, chap. 37. p. 299, cites from this author the case of a young girl eight years of age, who, as she was warming herself by an earthen pot filled with lighted coals and covered over with ashes, by a sudden motion overset the vessel, so as to produce a burn of the vulva and lower part of the vagina. As little attention was paid to the consequences of the accident, the inner surfaces of the labia cohered as they got well, and there was left only a small hole in the middle of the vulva, through which the menses escaped regularly. At a later period, the girl having abandoned herself to the caresses of her lover, she became pregnant, notwithstanding the narrow dimensions of the opening. The adhesions were separated from the orifice just mentioned to a point below the orifice of the urethra, but the dilatation proving to be insufficient, the incision was prolonged, and the labour terminated happily.

† *Anton-Benèveni, de abditis nonnulis morbis, et san causis*, cap. 31; also, *La Lancette Française, Gazette des Hôpiteaux*, No. 31. 1. vii. Mar. 1833.

‡ The illustrious Dupuytren has given, in his Lectures, the case of a girl who was seduced, and who, in giving birth to a child, was delivered precipitately and with violence; the consequence of which was a deep laceration of the perineum, with severe inflammation of the vulva. The learned professor brought the parts together by means of three sutures. After the lapse of two years, without his having heard from her, she called upon him to request that he would say nothing on the subject of her misadventure to her husband, who was to call upon him the next day for his advice. In fact, he called in order to consult with M. Dupuytren as to the measures to be taken for overcoming the resistance dependent on the virginity of his wife, in consequence of which the marriage could not be accomplished. A new operation removed the difficulty, without his having the least suspicion of her past history. The medical annals contain a great number of similar cases—I had an opportunity of seeing one not less curious at La Charité, in the wards of Baron Boyer.

§ Arnaud (Obs. 1. p. 44,) relates the case of a young girl, whose genitals were excoriated and violently irritated by a long ride upon an ass, whose rude trot and the hardness of the pack-saddle, were the occasion of the misfortune. Having taken no care of herself, the labia cohered without her having dared to speak of it, and the vulva presented but two small orifices; one through which the menses escaped, and the other opposite to the meatus urinarius. Notwithstanding the almost complete occlusion of the vulva, she married and became pregnant. When her labour came on, the cohering parts were divided with probe-pointed scissors, and the delivery was happily accomplished.

‖ In 1814, there came to the Hotel-Dieu at Paris, a woman, twenty-four years of age, well formed, and of a sanguine temperament. She came for advice as to a tumour of the hypogaster, which she supposed to arise from suppression of the menses. Upon a careful examination of the sexual organs, it was found that the vulva was completely obliterated, and the womb greatly distended, forming a globe about the size of the uterus at the sixth month of gestation. Being carefully interrogated as to the possible causes of her disorder, she confessed that having been surprised by some Cossacks in the woods at Fontainebleau, she had been compelled to submit to several of them, and she regarded her malady as really caused by this violence. Notwithstanding the use of venesection, leeches, baths, fomentations, narcotics, &c., her situation became so dangerous that Dupuytren decided to use the bistoury, in order to overcome the adhesions of the organs; and the consequence was a copious discharge of black putrid blood, exhaling an infectious odour. For fear of impeding the discharge of matters already so long retained, no dressings were employed. On the following day a complete relief had succeeded the most violent agonies. The abdominal tumour was very much lessened. The discharge was still considerable and bloody; a suppurative fever came on and lasted a few days, and the discharge, which had become puriform, next became mucous. In order to obviate the tendency to cohesion, she was advised to introduce a dilater into the vulva from time to time, and the cure was soon complete. This curious case is related in detail in the *Lancette Française*, N. 31. 6th année, 7. 7.

napkin; (Isbrand de Diemerbroek, *Anat. du Corps Humain*, lib. 1. cap. 26;) and lastly, by large variolous pustules under suppuration, (Becker, jr., in *Pœdioctonia Inculpata, &c.*, p. 35; Boyer, *Malad. Chirurg.*, xx. p. 379;) and a variety of other circumstances capable of exciting violent inflammation of the genitals.

There is yet another cause of atresia (complete or incomplete) of the vulva, but which exists only among the oriental nations. Many authors, and among them Sinibaldus, (*Geneanthropia*, lib. 4. cap. 12, Rodericus à Castro, lib. 4. cap. 10,) state that in Ethiopia the virginity of the females is made sure of by uniting the sides of the labia as soon as they are born. United by sutures made with silken threads, space is left sufficient only for the natural discharges: when married, the husband makes the section required for the restoration of the natural form.

Atresia of the vulva is not always the inevitable consequence of the causes we have above signalized; and where it does take place under such circumstances, it is because the inflammation arising has been neglected or badly managed.

Whatsoever may have been the occasion of this vulvar symphysis, it is to be cured by re-establishing or completing the external orifice of the vagina, by means of a bistoury guided upon a grooved director, and conducted longitudinally upon the middle of the abnormal raphe formed by the agglutination of the labia. To prevent the reunion of the surfaces until after the cicatrization is completed, a bit of lint, or what is better, a small compress spread with cerate, should be interposed. When the occlusion is complete, the operation ought to be done as soon as possible after the birth of the infant, for the least delay might produce fatal consequences. But if the cohesion has left free course for the urine, and has not been discovered until towards puberty, and is disclosed by the symptoms of accumulation of the menses in the vagina and in the womb, we should operate as has already been mentioned; but it would be most prudent to make only a small opening, so as to allow the blood to escape slowly, in order that the distended parts, recovering by slow degrees, may be less liable to the violent and often fatal inflammation that follows the too sudden evacuation of fluids contained within the visceral cavities. To assist in cleansing the organs, recourse should be had to emollient lotions and baths, to be followed according to circumstances, and the state of the case as to its symptoms, by detergent, and in some instances, by antiseptic injections.

When the discharge of blood has ceased and the parts have recovered their normal state, if the method above recommended has been taken, the operation ought to be completed by completely separating the labia, as before directed.

Whether the operation be performed soon after the birth of the child, or whether the case admits of our waiting for a later period, not only should we make use of a plaster spread with cerate to prevent the reunion, but it is advisable to touch the whole surface of one labium with nitrate of silver. These two labia, being no longer in the same condition in consequence of the cauterization of one of

them only, it follows that they will be less likely to cohere, and thus the good effects of the operation will be more easily obtained.

Union of the labia, even when incomplete, is an obstacle to the union of the sexes, and when, in such cases, conception has taken place, as has often happened, as shown by the annals of medicine, the deformity continues until the attack of labour has rendered an operation inevitable.

## OF COHESION OF THE NYMPHÆ.

Congenital cohesion of the nymphæ always accompanies that of the labia, but may exist without the latter, and may be the result of a primary or accidental vice.

We had occasion, in the course of the present year, (February, 1837,) to operate upon a child two years old, supposed to be labouring under stone, from the great difficulty of passing off the urine. Having, by a careful examination, ascertained that the difficulty arose from a congenital cohesion of the nymphæ, which seemed to be wholly wanting, or rather to have as their substitute a fleshy membrane of a triangular shape and of a bright-red colour, and placed at right angles upon the spot usually occupied by the meatus, and presenting at its base a small orifice directed from below upwards—a small elastic bougie, introduced within this urethral orifice, was promptly arrested by a narrow cul-de-sac about four or five lines in depth. This arrangement explains why the urine could not escape in a direct line, but was compelled to dribble away obliquely backwards and from above downwards, constantly bathing the labia and the fossa navicularis, which had become much inflamed by the almost constant contact of the fluid of the bladder.

Having introduced behind the nymphæ the extremity of a guarded bistoury, which I use in operating for fistula in ano and for relieving the stricture in hernia, I destroyed the adhesion, by depressing the handle of the instrument, with a single incision. For the purpose of obviating the consecutive adhesion, I touched one of the surfaces with nitrate of silver; nevertheless, this precaution did not seem to be an indispensable one, inasmuch as the frequent contact of the urine would, probably, have sufficed to prevent any new agglutination of the parts.

Professor Dugès, in the *Traité des Mal. de l' Uterus*, which he published in conjunction with Madame Boivin, says that a little girl was brought to him to inquire as to the cause of a habitual dysury that she laboured under. The urine escaped by a small orifice near the clitoris. A probe introduced into it did not pass into the bladder, but, when directed horizontally backwards, entered the vagina near its orifice. There was no appearance of nymphæ; and we ascertained, says M. Dugès, that they were coherent, and composed a canal placed at right angles to the orifice of the urethra so as to receive the urine and allow it to escape, partly above near the clitoris and partly below near the vagina. This case differs from the one I have just related only in this, that the urine escaped both above and below,

while, in my case, it dribbled away only below, that is to say, obliquely from above downwards. It should be added that Dr. Buet has published a case very similar to those just mentioned. (*Journ. Comp.*, t. 39. p. 223.)

The chirurgical measures adapted to these deformities consist simply in separating the nymphæ at the line of coherence, by an incision, guiding the bistoury upon a grooved sound, as M. Dugès did, and making use of the precautions we recommend in speaking of the symphysis of the labia pudendi. The guarded bistoury which we used, and which is hardly half a line in diameter, fulfils this indication most perfectly, and renders the operation not only prompt but exempt from all danger, notwithstanding the movements of the child.

## OF EXCESSIVE DEVELOPMENT OF THE NYMPHÆ.

As we have already stated at p. 44, the nymphæ are, in common with the clitoris, susceptible of becoming so much elongated that they not only interfere with the act of coition, but become inflamed and excoriated in consequence of their friction in walking, and, in some instances, ulcerate so badly as to require excision for the cure.

This operation, which, in Egypt,* is a very common one, is also in use in Ethiopia,† in Syria, among the Cops,‡ the Arabs and the inhabitants of Malabar,§ and it possesses even the force of law‖ among most of the oriental nations, whose women, like those of the negro races, are generally subject to elongation of the nymphæ.

Many travellers, however, report that all the women are not subjected to the operation in question, and that it is practised, as a general custom, only in certain countries in Arabia and Persia, near the Persian Gulf and the Gulf of Ormus, (Chardin, *Voyages en Perse*, tom. iii. p. 207; Wlesling, p. 144;) the Abyssinians, although a Christian people, and the women of the kingdom of Juida, who are neither Jews nor Mahometan, still preserve this ancient rite, which is not due to the jealousy of the oriental tribes, but is made use of by them. With the view of preventing a pretended deformity, they operated on all the young girls as soon as they attained a marriageable age, under the persuasion that, by shortening the nymphæ and thereby diminishing the frictions, they lessened the provocations to lubricity. The Turks appear to have another end in view in the practice of nymphotomy. According to Sonnini, their object is to remove all the inequalities of the parts for the purpose of facilitating the congress. According to Leo Africanus, (lib. viii.,) there are, in certain countries in Africa, where enlargement of the nymphæ is very common, certain men whose sole business it is to excise whatever is too exuberant in the structure of the external genitals. The same author adds that these operators cry aloud in the streets, "*Who is she that wishes to be cut?*" In his *Travels in Upper and Lower Egypt*, published in 1799, Sonnini

* Sonnini, Travels in Upper and Lower Egypt, tom. i.
† Leo African., lib. iii.; Démarchai's Voyages, tom. iii. chap. vii. p. 153.
‡ Bellon, Observ., p. 426. § Voyage de Thevenot, cap. 32.
‖ Paul. Æginetta, lib. iv. cap 70; Ætius Tetrabib IV., Strabo, lib. vii.

also tells us that the excision of the nymphæ and clitoris is still practised in those countries, upon girls of seven or eight years of age; and that the operation, in Upper Egypt, is always performed at the time of the increase of the Nile, by women who go about in the public streets of Cairo crying their trade in the words, "*Here's a good circumciser!*" A razor and a pinch of ashes comprise the whole apparatus for this excision.

Although the operation of nymphotomy may have been originally established for the purpose of obviating the unmeasured augmentation of the nymphæ, it may possibly have been instituted also for the purpose of maintaining the cleanliness of the sexual organs; for in the negroes and Coptic women, whose nymphæ are very long, there is collected, betwixt the clitoris and nymphæ, a quantity of sebaceous matter of a whitish colour that becomes acrid and stimulating, and that moreover exhales in those females a very fetid miasma.

The Portuguese Jesuits, who, in the sixteenth century, converted the people of Abyssinia to Christianity, were desirous of abolishing this custom as a remains of Mahomedanism, but the girls that remained uncircumcised obtained no husbands, and were looked upon as so unclean that the very vessels in which they ate were broken. The Pope, upon the recommendation of some surgeons who were sent there, authorized the practice of circumcision, which was looked upon as a hygieinic and cleanly precaution for the sex.

Notwithstanding that exuberant growth of the nymphæ is a pretty rare anomaly in European countries, especially in our climate, we nevertheless meet with instances of their projecting beyond the orifice of the genitalia several lines, or even several inches. Where the increased size is accidental, it may depend upon inflammatory swelling, upon relaxation of the tissues or hypertrophic action. In such a case, the salient portion becoming irritated and painful from the friction of the clothing, or the motions of the thighs, the exposed surface ulcerates, and the woman is obliged to remain at rest. In most cases the use of baths and of emollient and narcotic fomentations, rest, a horizontal posture, &c., suffice for the dissipation of this accidental enlargement of the nymphæ; but cases are met with in which these measures will not answer the purpose, and we are compelled to have recourse to the excision. Mauriceau, in his Observ. cxxxiv., relates the case of a lady who vehemently implored him to perform the operation for her, as well because, being obliged to be often on horseback, the elongation of the nymphæ gave her pain from the friction, as because the indecency of the malady was as displeasing to herself as it was to her husband. P. 30, *Traitè des Malad. des Femmes.*

Excessive elongation of the nymphæ is not the only circumstance that renders their excision necessary; for recourse should be had to it in cases where they have become fungous, scirrhous, carcinomatous or gangrenous, &c., disorders that may arise in consequence of contusion or injury experienced in laborious labour, from venereal taint, or even from inappreciable causes.

The excision of the nymphæ, which has been described by Galen, (*de usu Partium,*) Ætius, (*Tetrabib.*, lib. v. serm. 4,) Paul. Ægi-

netta, (lib. vi.,) Moschion, Suidas, (*Lexic.* 81,) Albucasis, (lib. ii. cap. vii.,) Avicenna, (lib. iii. sen. 21. tract. v. cap. 24,) Mathias, Zimmermann, (*De Æthiopum Circumcis.* cap. 9,) Dionis, Levret and many other modern authors, is performed in the following manner: the woman having been placed in the same position as that which has been directed in case of the use of the speculum, the surgeon, after separating the labia, seizes, with a broad forceps or with the thumb and first three fingers of his left hand, the left nympha, and performs the section with a scissors curved upon the flat surface, and held in his right hand. Having completed the first section, he takes the other nympha in like manner with the right hand, and, holding the scissors in the left, performs the excision of the organ. If the sole motive for the operation consists in the mere excessive magnitude of the organ, care ought to be taken not to remove more than the excess; but where the operation is performed on account of gangrene or carcinoma, the extent of the section should correspond to the necessity for excision, and the instrument should even be carried into the sound tissues. The operation being completed, a gum-elastic catheter should be introduced into the urethra and left in the canal. Each wound ought to be dressed with a dossil of dry lint, supported by small, narrow compresses, and by a T bandage, slit opposite to the end of the catheter.

In case, as in Mauriceau's patient, copious hæmorrhage should follow the section, which is very improbable, since the vessels of the nymphæ are quite small, the flow would be readily controlled by aluminous lotions, or, if need should be, by the application upon the cut surfaces, of small pieces of agaric cut into a conical shape, or by bunches of lint sprinkled with rosin, and sustained in situ by a bandage and compress. Recourse could also, if required, be had to the use of nitrate of silver or the actual cautery; but if the vessel should be pretty large, it could be secured by the ligature.

## OF UNNATURAL DEVELOPMENT OF THE CLITORIS, AND OF ITS EXCISION.

As has already been shown at page 45, the clitoris is capable of acquiring dimensions even beyond those of the male penis. It is easy to imagine why an exuberant growth of this organ must interfere with the functions* of the sexual parts, and become the source of a depravation equally disgraceful and disgusting.† For the purpose of obviating the inconvenience and the bad habits‡ arising from this

* Paul Zacchias, physician to Pope Innocent X., who, though a diffuse writer, is distinguished for his immense erudition and sound judgment, speaks of a Roman lady who could not cohabit with her husband, because of her clitoris, which was then in a state of erection, and thus was an obstacle to the sexual union. *Quest. Med. Leg. Avenione, pars prima* in fo. 1660.

† Martial, lib. i., addressed the following to Bassa,

> Essa Videbaris, fateor, Lucretia Nobis;
> At tu, pro facinus! *Bassa*, fututor eras,
> Inter se geminas audes committere cunnos,
> Mentitur que virum prodigiosa Venus.

‡ Avicenna, under the word *Albathara*, i. e., clitoris, recommends its excision in women who might abuse the preternatural organ.

anomaly of structure, and the excessive sensibility of the clitoris, the excision of the organ has been recommended, in the same manner as it is practised in certain morbid affections of it of a cancerous nature.

In performing the operation, which is extremely simple, let the woman be placed as for the use of the speculum. Having seized the part with a tenaculum or dissecting forceps, it may be removed at a stroke, either by means of curved scissors or by means of a bistoury, cutting obliquely and as near as possible to the pubis. The bleeding almost always stops spontaneously; if it should be too considerable, it might be arrested by the ligature, by nitrate of silver, or by the cautery.

[Cases of the kind just now treated of by M. Colombat must be very rare in this country, and are, probably, so in all Christendom. Having been many years engaged quite extensively in obstetric practice, and in the management of the diseases of women and children, in this great city, I have never seen nor heard of a case of excessive magnitude of this organ, save one—and, as that case was of a most singular character, I shall report it as under the care of Dr. George Norris, one of the surgeons of the Pennsylvania Hospital, who operated for the case in my presence.

Mrs. W., aged 36, was affected, fourteen years ago, with a slight swelling at the top of the genital fissure, which gradually increased in size until it attained a very considerable magnitude; it began after a blow on the part. She was married in 1836, eight years ago. During the eight years in question, she gave birth to two healthy children, and, so late as 1839, became the mother of a daughter.

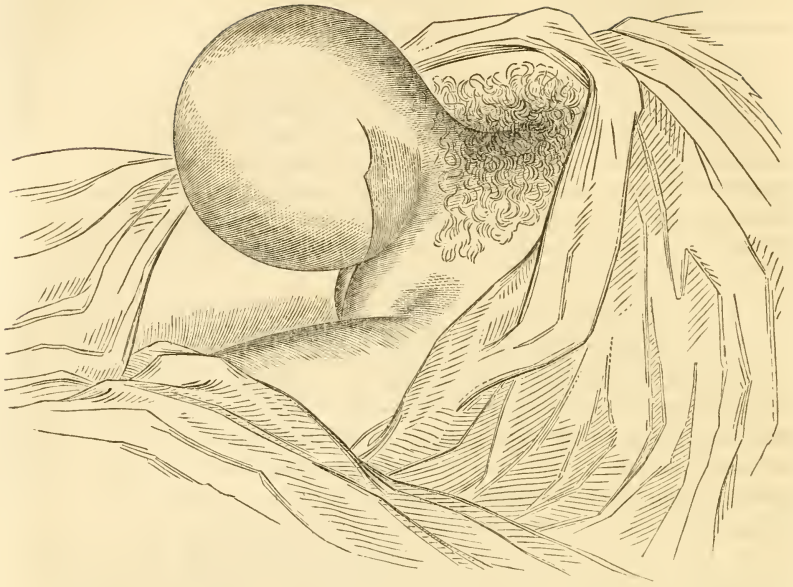
During her lyings-in, she asked the opinion of her accoucheur on the nature of her malady, and was by him referred to a surgeon. In the fall of 1843, it was shown to me, and in the month of May, 1844, I saw it, in company with Dr. George Norris, of the Pennsylvania Hospital.

The drawing of the tumour, which is annexed, gives a very correct idea of its form and situation, and was taken by myself *ad vivum*, and engraved by Mr. Gilbert.

It was indolent. It sprung from the upper commissure of the vulva. Its superior part, or dorsum, was composed of a true skin or derm, and was sparsely supplied with pudendal hairs. This portion was of a dusky colour, like that of the exterior pudendum generally. The tumour gravitated betwixt the thighs as the patient laid on her back, and was always pendulous in walking.

Upon lifting up the tumour, whose neck was small and perfectly flexible, the inferior surface was seen of a rose tint, of a moderately pale colour, like that of the lip, and was not dermal but mucous in its structure. The root of the tumour separated the superior part of the labia, portions of which, as well as of the lower part of the mons veneris, had been drawn upwards from the sides and downwards from above, to furnish the material for the development of the new structure. I looked for the nymphæ, and found

Fig. 10.



that they also had been drawn in, to furnish part of the material, for they were extended up on each side, and rendered very thin, as represented in the *cut*, whose curved edge is there seen. The observer will please take notice of a small second curved line, which is at last lost in ascending upon the sides of the tumour. That line is the anterior edge of the præputium clitoridis, which, in the natural state, is a sort of hood, or semicircular fold of the top of the nymphæ, which covers and partially conceals the clitoris, and resembles the male prepuce. But, in this specimen, it is so thin that it is gradually blended with the mass of the swelling: the same appearances are observable on the other side of the tumour.

The sensibility of the superior part of the mass is the ordinary dermal or tactile sensibility; whereas, the inferior or ventral surface and part of the sides were endowed in a high degree with the erotic *clitoridian* sensibility. This was a point which I was desirous to ascertain, and the information on it, given to me by the patient, was clear and candid.

The tumour, whose form is accurately represented in the drawing, had a dull fluctuation, and the handling of it, and even smart compression of it betwixt the fingers, gave no *pain*. Dr. Norris proposed, after a careful examination, to puncture it, in order to ascertain the nature of the substance within. He and I concurred in the opinion that the tumour consisted of a morbid alteration of the clitoris, whose præputium, as before remarked, was seen ascending as a crescentic fold on the sides. It was not skin merely, but half skin and half genito-urinary mucous tissue, containing a fluid of considerable consistence.

Dr. Norris plunged a common lancet into the lower end of the tumour, and the instrument gave issue to a thick, blackish fluid, of the consistence of tar or thick molasses, perfectly inodorous, and clearly consisting of blood preserved within the sac from the very commencement of the disease, fourteen years before. She scarcely felt the puncture. The whole of the dark fluid came slowly away, as from a single sac without cells or compartments, leaving the tumour shriveled and looking like a shrunken scrotum, to the great relief of the poor woman, who had been much annoyed by so strange an appendage. The quantity withdrawn was estimated to be twenty-two fluid ounces. No evil consequences followed, and the poor woman was not in the least incommoded by the operation.

There could not rest a doubt upon the mind as to the seat of the malady—it was a clitoris converted into a cyst. What is wonderful, is that the fluid should have remained so many years locked up within the clitoris, without becoming in the least degree offensive, and undergoing no other change than that which blood undergoes when detained for a long time within a reproductive tissue—as in the case of atresia of the vagina. The liquid is of the same nature as that I have seen, on different occasions, from atretism of the vagina, where the catamenial fluid had been long detained in the womb.

I beg leave to call the attention of the reader to this most remarkable physiological fact; and to say that, so far as my knowledge extends, there is no example of blood detained for months and years in cavities, without undergoing decomposition, except when it is detained within the generative tissues. The blood detained in aneurisms is wholly different from the specimens to which I allude. In this case the whole of the genitalia were healthy and in an active state of vitality, with the sole exception of this altered clitoris and nymphæ, with their præputium or hood.

Monday, Sept. 21, 1844. I examined the case to-day; the tumour is forming again, and now contains some six or eight ounces of the fluid. I shall refer to this case again, in a note to M. Colombat's article on hysteria.—M.]

### IMPERFORATION AND STRICTURE OF THE FEMALE URETHRA.

Although imperforation of the meatus urinarius is generally a consequence of the complete union of the labia, it may yet sometimes exist *per se*, and, in this case, the orifice of the urethra is stopped by a thin and delicate membrane, which, nevertheless, is strong enough to prevent the escape of the urine.

The existence of such a case ought to be suspected where, the labia not cohering, the napkins of the infant are found not to be wetted with the usual discharge from the bladder, and where, after discharging all the meconium, it still continues to cry and to strain without effect. To these symptoms should be added the gradual enlargement of the hypogastric region, which is tense, painful, resisting and rounded, and exhibits a much less perceptible prominence.

The membrane which prevents the urinary discharge may be confined to the orifice of the canal, or may extend to a greater depth

within it. In the first-named case, which is the most common and the most easily remedied, the membrane swells outwards with each effort, and even with every cry of the infant;—in the second case, that is, where the imperforation affects a great part of the tube, no membrane can be discerned, and the operation becomes difficult and even very dangerous.

When the canal is stopped only at the vulvar orifice, all that is necessary for opening a passage for the urine is to puncture the membrane spoken of with the point of a narrow bistoury, and to leave a small catheter in the urethra for a few days. It ought to be added that the latter process is not to be considered indispensable, but seems to us useless, because the contact of the urine and its frequent passage would generally suffice to prevent the union of the divided parts.

By means of an abnormal orifice at the umbilicus, which is more frequently met with in female than in male children, nature sometimes obviates imperforation of the urethra. Immediately after birth the bladder, which is still almost wholly above the brim of the pelvis, approaches the umbilicus, and the incomplete obliteration of the organ facilitates the establishment of this supplemental mode of excretion.

When this anomaly is met with in a young infant, an incision, as already directed, should be made into the obturator membrane at the mouth of the urethra, after which a catheter should be left for some time in the bladder, in order to restore to the fluid its natural course. The same treatment is applicable at any age.

Barthélemi Cabrol, an able surgeon at Gaillac, who was appointed by Henry IV., Demonstrator of Anatomy at the School of Montpellier, informs us* that a girl, eighteen years of age, had the urethra stopped by a membrane, so that the urine passing, it is probable, along the urachus, escaped at the navel, which projected about four inches and exhaled an intolerable stench. In treating the case, Cabrol first made an incision through the membrane that had closed the urethra, and then introduced a leaden canula into the bladder in order to give free course to the urine. On the next day, having thrown a strong ligature about the projecting portion of the navel, he cut off the protuberance beyond the ligature. He touched the spot with the actual cautery, and when the eschar fell off he dressed the surface with desiccatives, and obtained a complete cicatrization in twelve days. In such a case the same treatment ought to be adopted, with exception of the cautery, which is unnecessary, and which terrifies the patient to no purpose.

Where the orifice exhibits only a narrow opening through which the urine escapes with difficulty, it is a case of stricture of the urethral orifice, and not one of imperforation of the canal. In this case the orifice should be fitly enlarged by means of a narrow bistoury and a grooved director.

[I cannot avoid entering my protest against this doctrine, for it is indubitable that in all such cases, when the most delicate probe can be made to

* Observat. Anatom., 23.

pass, the difficulty is easily to be overcome by the daily use of the bougie, beginning with one of a small size, and gradually enlarging it till the orifice has acquired a proper magnitude. It is not necessary to do more than pass the bougie through the stricture, to retain it there about a minute and no longer, when it will be found that a larger one will be admitted on the same terms the next day; and so on until one sufficiently large can be passed. Its use repeated afterwards from time to time, say once in two, three or four weeks, will perfect the cure.—M.]

Where the constriction or occlusion of the canal extends throughout a great part of its tractus, and especially where the urine finds no other outlet, the child must inevitably perish if not opportunely succoured, and even here there is but one means of rescue, and that by a very doubtful operation: I mean the puncture of the bladder by means of a bistoury or a delicate trocar, which should be plunged into the point where the orifice of the urethra ought to be, and thence conducted to the cavity of the bladder. Should the fear of giving an erroneous direction to the instrument or any other motive lead to a rejection of this operation, then there should be no hesitation as to making a puncture of the bladder through the vagina or rectum, and should the structure of those passages be of such a nature as to oppose these methods, recourse might be had to a puncture above the symphysis pubis.

It is to be confessed that in these cases the infants are generally lost, even where we have succeeded in re-establishing the course of the urine by any of the methods just pointed out.

In order to conclude what we had to say upon the subject of preternatural conformation of the vulva and its dependencies, we must add, that although the labia pudendi may possibly be wanting as a congenital defect, they may also be destroyed by gangrene or corroding ulcers. In the latter case the lesion is often accompanied by occlusion of the vagina or the meatus urinarius, which will require the treatment we have already pointed out.

## FAULTY CONFORMATION OF THE VAGINA.

The deformities of the vagina, whether congenital or accidental, that are susceptible of cure by surgical treatment, are, imperforation, obliteration, obturation, congenital narrowness, and stricture or contraction.

### IMPERFORATION OF THE VAGINA.

Imperforation of the vagina has been noticed by several of the ancient medical writers. Hippocrates speaks of it in his first book of the *Diseases of Women*, but points out no treatment for the case. Aristotle, who was preceptor to Alexander the Great, and who lived three centuries before the Christian era, teaches us that some girls have the vagina closed at birth and until the period for menstruation; that the blood then gradually secreted gives rise to violent pains that never cease until it has either forced a passage for itself, or until one has been formed for it by artificial means.

In some instances no relief has been obtained until death supervened, in consequence of the violence by which the passage has been produced, or of the impossibility of establishing one.

Imperforation of the vagina has also been noticed by a great number of other authors, among whom we may mention Celsus,* Soranus of Ephesus,† Moschion,‡ Roonhuysen,§ Benevenius,‖ Cabrol,¶ J. Fabricius ab Acquapendente,** Fabricius Hildanus,†† Schenk,‡‡ Solingen,§§ Meeckren,‖‖ Mauriceau,¶¶ Ruysch,*** Saviard,††† and many others whose names it would be tedious to cite.

The imperforation of the vagina that consists in the occlusion of the anterior orifice of the canal, may be either complete or incomplete, accidental or congenital; it may be due either to the hymen or to some other fold of the mucous membrane, or to the presence of cellular or cellulo-fibrous bands crossing in different directions, and found at different distances from the os magnum.

Complete imperforation is generally not discovered until puberty, or at the commencement of the mensual office. The young female is at first subject to all the symptoms that precede and accompany menstruation, except that she perceives no discharge of blood. The health that had before been good, suddenly becomes disordered without any evident cause for the change. The abdomen becomes the seat of disorders previously not known to the patient; the hypo gastrium becomes more and more painful and takes on a gradual and uniform enlargement; the patient feels pain in the loins, weight within the pelvis, spasms, suffocation, intense cephalalgia; and, in fine, a variety of disorders the seat of which is clearly in the generative organs, and the origin of which is at first always enveloped in obscurity. All these symptoms, which undergo a partial diminution in the course of a few days, augment in violence with each return of them. The abdomen grows gradually larger, and sometimes acquires a size equal to that which it attains in an advanced stage of pregnancy, most of the symptoms of which are now found to be present, such as swelling of the breasts, nausea, vomiting, disgust, queer appetite, &c. The symptoms in the case so closely resemble those of gestation, that learned physicians have pronounced it to be pregnancy, though the patient were still a virgin. Samples of this kind are given by J. Wierus,‡‡‡ B. Cabrol,§§§ Fab. Hildanus,‖‖‖ J. Muratt,¶¶¶ and some of the modern authors who cite cases of the kind.

In order to avoid the distressing results of such mistaken diagnosis and remove all doubts on the subject, it is merely necessary to reflect

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* Corn. Celsus de Medicina, lib. vii. cap. 28.
† De Utero, et Muliebri Pudendo. Libel, et Aetius, lib. xvi. cap. 95.
‡ Gynæciorum de Mulier. affect: et Morb., part i. cap. 3.
§ Lib. ii. De Clausura Uteri.
‖ See Abditis Morb. Causis, cap. 28.
¶ Observ. Anat., 23.
** In Operat. Chirurg. de Hymene Imperforato.
†† Centur. iii., obs. 60.
‡‡ Lib. iv. De Part Genital.
§§ In Observ. v.
‖‖ Observ. Chirurg. 55.
¶¶ Observat. sur les Malad. des Femmes.
*** Observ. Chirurg. 32.
††† Observat. Chirurg. &c.
‡‡‡ De Dæmonum Præstigiis et Incantationibus, lib. iii. cap. 38.
§§§ Observ. Medicin., obs. 23.
‖‖‖ Centur. iii., observ. 60. exemp. 3.
¶¶¶ Ephem. Curios. Natur. decur. ii., anno. 3. observ. 151.

that where the development of the abdomen arises from menses retained in the womb and vagina, in consequence of congenital imperforation or accidental obliteration of the vagina, the development takes place at intervals, and by periods that correspond to the mensual epochs, that is to say, once a month.

As each menstruation goes to increase the pre-existing collection, the accumulation of blood becomes enormous, compressing with increasing violence not only the parts above that are in the vicinity of the enlarged womb, but also all the contents of the excavation of the pelvis, as the rectum, the bladder, the sacral plexus, the sciatic nerves, &c. It is to this very compression that we have to attribute not only the dysuria and the difficult defecation, but also the engorgement, cramps and swellings of the lower extremities, the weight at the rectum and perineum, and, indeed, the uneasy feeling of imperforate females, principally in the pelvic region, felt in walking and standing. Hippocrates* speaks of a young girl who became lame from the accumulation of blood in the vagina, for which there was no means of escape, and which produced compression of the sacral nerves. Morgagni (*De Sed. et Caus. Morb.*) asserts that atresia is capable of producing insanity; for other authors have noticed cases of convulsions, hysteria and delirium proceeding from the same cause. In a case of retention of the menses from complete imperforation, Dehaen† discovered that the Fallopian tubes, from being distended with blood, had given way and occasioned a fatal effusion.

In some rare cases, the blood effused at each menstruation has been absorbed so as to disappear during the interval; the abdomen, which had become hard and swollen for several days, has soon returned to its natural size. Patients exhibiting this double anomaly, both physiological and anatomical, may resist the evil for a long time, but with an ever-doubtful health.

In certain women with imperfect sexual organs, nature affords a substitute for the menstruæ, by means of periodical hæmorrhages and engorgements, at the anus, the lungs, the breasts, the stomach, the nostrils, the ears, the tegumentary surface, &c.

A vaginal imperforation is not invariably followed by the consequences we have spoken of. These consequences may in some individuals never be made manifest, though the menstruation may wholly fail, and even not find a substitute in any other evacuation of blood. This happens in those cases where, together with imperforate vagina, there is absence of the womb itself. Such a state of things ought to be inferred in women who have passed the period for the appearance of the catamenia, when the genital apparatus ordinarily enters upon the exercise of its exhalent functions: cases of the kind are to be found in the annals of the science of medicine.

In general, the diagnosis of vaginal imperforation is quite easy to be made, and an attentive examination of the genitalia suffices to dissipate all doubt upon this rare affection.

We may ascertain that the obstacle that closes the passage is

* De Morb. Mulierum.

† Ratio Medendi, par. 6.

merely the hymen, whenever we discover between the labia a hemispherical tumour of a livid or bluish colour, soft and fluctuating, and rendered salient by the weight of the contained blood. In such a case, most authors have recommended that with a view to destroy the obstacle, we should plunge a straight bistoury into the centre of the tumour so as to make a crucial incision, the operation being completed by afterwards removing the flaps or angles by means of curved scissors and a forceps. A tent of lint spread with cerate and introduced betwixt the edges, suffices, in a majority of cases, to prevent the reunion of the divided surfaces.

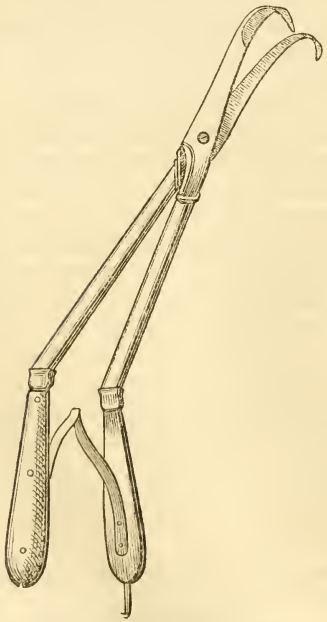
In cases of occlusion caused by the hymen, Celsus* recommends the incision, which he describes as follows. *Si membrana oræ vulvæ opposita est....oportet autem membranam duabus lineis, inter se transversis incidere ad similitudinem litteræ X, magna cura habita ne urinæ iter violetur, deinde undique eam membranam excidere.*

Avicennat directed that the membrane should be ruptured with the point of the finger covered with a piece of linen, and Mauriceau advised that it should be torn by means of the finger nail.

The mode of treating retention of the menses from imperforate hymen by a crucial incision, is often followed by serious consequences, for the sudden escape of the fluid renders it impossible for the parietes of the womb, too suddenly emptied, to contract immediately, a circumstance that often gives rise to fatal inflammation, and to fever of a bad character.

In order, as far as possible, to obviate the bad consequences of the operation in question, and especially with a view particularly to preserve the hymen, to which is attached a great moral importance, we propose the following mode of operation, which is equally simple and easy of performance, and in doing which we need not entertain the least fear of wounding the vagina itself.

Fig. 11.



Having placed the woman in the situation required for the use of the speculum, let an assistant separate the labia and nymphæ, and then seizing the centre of the tumour with a tenaculum, or what is still better, with broad forceps, the membrane is pulled outwards and a proper portion of it removed by cutting it from below upwards with a scissors curved on the side, or what answers better still, with our scissors *emporte piece*, (*vid. figure,*) for the extirpation of the

* Celsus de Med., lib. vii. cap. 29. † Avicenna, lib. iii., scu. 21. tr. 4. cap. 1.

frænum of the tongue.* The aperture produced in this manner gives a small oval circumference, which nearly resembles the natural orifice of the hymen, admits of a gradual evacuation of the retained blood, and of a regular and slow return of the distended organs to their natural dimensions without too sudden a void. In this way the admission of air in lesser quantity and less suddenly, does not so readily determine the attack of intense and often fatal inflammation that is apt to follow the common mode of operating.

In some cases it is found that there are two membranes, the one placed above the other. Fred. Ruysch† published a case in which he was obliged to make an incision into each of two membranes. Thomas Willis states that he was called to a woman upon the point of being confined, and who had had severe pains for three days preceding his visit. Upon carefully examining the genital organs, he discovered a membrane that adhered to the circumference of the vulva, and that prevented the delivery of the fœtus. Having made an incision into it, and finding that the delivery still did not take place, he again examined the parts, and found that there was another membrane situated at a greater depth within the passage, and which detained the child above it. Having removed this obstacle, the labour was soon and happily terminated.

In some cases a membranous band of greater or less thickness divides the orifice of the vagina into two small lateral apertures; and it must doubtless be this sort of fleshy column that induced Morgagni, Valsalva and other authors to designate the hymen by the descriptive term *columna virginitatis*—pillar of virginity. This band, in some specimens, is traversed horizontally by one or more bands producing a cribriform diaphragm, as in cases stated by Fab. Hildanus,‡ Viardel§ and Prof. Flamand.‖

[Some years since I was invited by Dr. John Ruan to visit a patient with him, who was in a severe labour, in which considerable delay and difficulty were experienced. I found that the vagina was divided into two lateral halves by a septum, which extended from the external orifice or os magnum to near the uterine extremity of the canal, and that the head of the child was pressed into the right one, compressing the other against the left side of the pelvis. It was agreed that I should deliver her with the forceps, which I accordingly did; and she gave birth to a healthy infant without accident or any untoward result. As the malconformation had presented so rare a specimen, I prevailed upon her to allow me to examine the parts after her recovery, which enabled me to discover that the septum had not given way at all during the distension of the right canal. I had no reason to suppose that the septum was repeated in the uterus.—M.]

* This instrument, Fig. 11, described and figured in our Traité du Begaiement, and in La Revue Médicale, will also be represented in our Dictionnaire Historique et Iconographique de toutes les Operations et les Instruments et Appareils de la Chirurgie, Ancienne et Moderne, with 1500 figures, 4 vols. 8vo. Paris, 1836–7.

† Fred. Ruysch. Obs. Chir. 22 and 32.

‡ Hier. Fab. Hildanus, cent. iii. obs. 60.

§ Viardel, Observ. sur la Prat. des Accouchements, p. 167.

‖ Disp. Inaug. du Doct. Villette, anneé, 1824.

There have been examples of women labouring under imperforation, (and their ignorant physicians have agreed with them,) who have mistaken the meatus urinarius for the orifice of the vagina, supposed to be contracted, and upon dilating it as far as possible, have made it subserve the uses of the latter, thus giving rise to incurable incontinence of urine and other consequences.*

Dr. Villette states, in his *Inaugural Essay*, that a lady of Strasbourg, was under the care of M. Chevalier during her accouchement. Upon performing the Touch he was surprised to find a polished orifice. In the state of uncertainty in which he was placed, he called in Prof. Flamand, who required a close examination of the parts; but what was his surprise to find the urethra sufficiently large to admit the index finger in Touching. At the orifice there was a cribriform lamella, through which the mensual discharge escaped. The membrane was excised, and the labour brought to a successful conclusion.

When the membrane that closes the vagina is very thick, the finger pressed against it meets with more considerable resistance, and it is difficult to discover the fluctuation, which is quite manifest where the membrane is thin. The proper mode of proceeding in such a case consists in making sure, by means of a sound, as to the disposition of the bladder, and in exploring the rectum by the touch. Then after the labia are separated by an assistant, a crucial incision is made with a straight bistoury conducted by the index finger, and wrapped in a bit of linen to within six lines of the point: [a bit of adhesive plaster is a convenient guard for the edge.—M.] When the crucial incisions are completed, the flaps ought to be taken off as has been already mentioned, and the orifice kept open by a dossil of lint, spread with cerate, and to which is attached a piece of thread; the lint to be renewed daily. The blood that escapes is generally viscous, black and fœtid; it escapes with violence upon making the puncture, and then concludes by escaping drop by drop.

To assist in cleansing the genital cavities of the patient, and particularly to get off the coagula, which, by remaining, might provoke an attack of inflammation, a free use ought to be made of emollient lotions, and subsequently of detergent and slightly resolvent or even antiseptic injections, according to the circumstances and indications of the particular case.

Where the vaginal partition is fleshy, Celsus† advises us to make a longitudinal incision, and then taking hold of the edge with a forceps, to cut a strip from it. He next placed in the wound an oblong tent moistened with vinegar, and over that applied a bit of wool in

* In the *Journal de Médecine*, published at Orleans, by M. Latour, fils, and in the article *Impuissance* of the *Dict. des Sci. Med.*, may be found a case related by Morgagni. (Lettre 40, n. 12.) A peasant, in the vicinity of Orleans, had misinterpreted a metaphorical expression that had fallen from his confessor, who attributed the sterility of his marriage to his not being dans la bonne voie, and was so stupid as to substitute the urethra for the vagina. The beginning was difficult, but by means of progressive dilatation, effected by divers mechanical aids, he attained his object, and remained for some time under his mistake, until the inconvenience of her urine and other symptoms compelled his wife to call in the aid of a physician.

† Con. Cels. de Med., lib. vii. cap. 28.

the grease, soaked also with vinegar, the whole being kept in situ by means of a proper bandage. On the third day he removed the dressings, and for the rest of the treatment acted as in ordinary wounds. When the cut began to heal, he introduced a leaden canula covered with a substance promotive of cicatrization, and applied externally the same medicament until the cure was perfect.

For the removal of atresia, resulting from the presence of a thick membrane, Hippocrates* and other authors have proposed the use of caustics. Bauhin† made use of caustics in a case which terminated fatally after the fall of the eschar. A. Paré‡ and his pupil Guillemeau recommended an incision from above downwards: others think it better to make an oblique one, in order to avoid the risk of wounding the urethra. The celebrated Dupuytren, whose practical opinions have such great weight, advised that the incision should be made from above downwards, and especially that the division should be carried to the very lower edge of the membrane, for the purpose of obviating the stasis of the blood and mucus behind it; and particularly to spare her the disagreeable and inconvenient necessity of using vaginal injections.

Where the obturating membrane is situated very deep in the passage, the vagina generally preserves its ordinary dimensions above the obstacle; but it may, from the prolonged retention of the menses, acquire an unnatural magnitude at its upper part. In order to destroy the membrane in such a case, we must expose it and protect the walls of the vagina by means of a speculum, then make a crucial incision, the cuts being oblique in order to avoid injury to the bladder or rectum. The four flaps should then be removed as already advised.

In the case which is not very unfrequently observed, where the membrane, being of a thick and fleshy nature, forms an annular band within the vagina, and has only a very small opening, the menstrual fluid escapes, but only drop by drop. Such cases have been noted by Daniel Sennertus of Breslau,§ Chambon,‖ A. Paré¶ and Prof. Flamand.** This sort of dysmenorrhœa always occasions a state of tension of the external genitals, and a feeling of weight about the perineum attended with pretty severe pains in the hypogastrium, and an unnatural sensibility of all the organs contained within the cavity of the pelvis.

The mode of curing this anomaly, which is prejudicial to the congress and to conception, consists in enlarging the opening with a probe-point bistoury, making crucial incisions and then removing the flaps, and afterwards keeping up the dilatation with a stout canula or any proper tent. Before resorting to an operation, we should clearly ascertain that the occlusion is due only to the presence of a membrane, which may be done by introducing a sound into the little opening which will be found at some point upon the

* Lib. de Sterilitat. et lib. ii. De Morb. Mul.
† Anat., liv. i. chap. 39.
‡ Liv. iv. chap. 59. p. 998.
§ De Morb. Mulierum, lib. iv. part i.
‖ Malad. des Filles, liv. i. chap. 2. p. 51.
¶ Paré, liv. xxiv. chap. 19.
** Leçons Orales a la Faculté de Strasbourg.

surface of the obstacle, above or beyond which the end of the sound ought to be movable freely; but in order that the operation may be safe, even if the occlusion be of the sort in question, the bladder and rectum should both have been emptied before the incisions are made; since the matters, whether solid or liquid, contained in them, might, by rendering them more salient, expose them to injury from the edge of the scalpel.

## OF CONGENITAL NARROWNESS OF THE VAGINA.

Narrowness of the vagina is a congenital affection, whereas constriction and obliteration of the passage may depend upon various accidental causes that we shall treat of in a subsequent page.

Instances have been met with in which the diameter of the vagina did not exceed five or six lines. This original deformity, like those that we have already spoken of, obviates the accomplishment of the purposes for which it was designed by nature. In case that strong and repeated efforts should, during the congress, be made to overcome the obstacle, the consequences would be a considerable inflammation and contusions productive of discharges and the symptoms of strangury, leading to suspicions of venereal taint. Under such circumstances, after having removed the inflammation by the use of topical emollients and other antiphlogistic measures, such as venesection, leeches, baths, narcotics and antispasmodics, and diluting and cooling drinks, we should endeavour to dilate the vaginal parietes by the employment of such dilaters as may expand after their application, such, for example, as sponge tents, bits of gentian root covered with cerate, large bougies and cylindrical caoutchouc pessaries, to be gradually increased in size until the vagina shall have acquired its normal dimensions.

With the same view, Hippocrates made use of a tin tube. Without following the recommendation thus given by the father of medicine, we are of opinion that use might advantageously be made of a sort of cylindrical dilater, composed of three or four pieces joined by hinges, and made so as to move and separate more or less distantly by means of a screw, adjusted like that in our jointed speculum and which is figured in this work at page 66.

As the *narrowness* of the vagina may affect only a portion of the tube, the first thing to be done is to ascertain its situation and extent by using a sound, which should be see-sawed in every direction if possible. If, upon its introduction, it be found confined as to its movements, and particularly if the end of it cannot be made to move freely, we may be sure that the narrowness extends throughout the entire length of the canal; but, on the other hand, if the see-saw motion of the end of the sound is free, we shall have to do with a narrowness extending only a few lines of the length of the vagina.

Where there is a want of development of the vaginal walls, the internal surfaces have a hard feel and seem to be fibrous and undilatable. For the purpose of promoting their amplification, we ought, to the use of the dilaters, to add that of injections of oil and muci-

lages, of topical baths, of fumigations, and especially the frequent application of suppositories of *beurre de cacao* introduced within the vagina.

The means above pointed out act very commonly in an efficacious manner, and are devoid of the dangers that inevitably ensue from the dilatation of the part procured by any other mode of proceeding. Besides, if the success obtained in this way be not always permanent, we have it in our power to repeat the treatment if necessary, without any inconvenience and without compromising the lives of our patients.

[In three cases of congenital narrowness of the vagina that have fallen under my notice, one was that of a lady who was pregnant at the seventh month, and in premature labour when I was called upon to see her. I was greatly surprised, upon making the usual examination, to meet with considerable difficulty in the introduction of the index into the passage, and it was not without some time and a very considerable resistance, that I at last succeeded in carrying the finger to the os uteri, which was already somewhat dilated. The lady, who was young, gave birth, after many hours of severe expulsive action, to a dead fœtus of seven months, and she recovered of the effects of her labour, in which she met with no accident. I cannot but believe that she conceived without a perfect congress, which I deem to have been impossible.

In another case, a lady came from a distant state; she had been several years married, and many and various efforts had been made to relieve her by the use of bougies, without any success. She spoke of some operation that had been performed with the bistoury, the nature of which I could not comprehend from her description of it. I saw her in company with Dr. Horner, Professor of Anatomy in the University of Pennsylvania. The vagina received, with some pressure, a full-sized urethra bougie, and it was evident that the narrowness occupied the whole extent of the canal, save a small part of the upper extremity where it embraces the cervix uteri. The treatment consisted in moderate dilatations with the bougie at first, which was followed, in a day or two, by bits of sponge tent. These tents, by their expansion, effected a dilatation sufficiently great to admit of the passing of the index readily to the os uteri. When the passage had by this means been considerably enlarged, the inner surface of the vagina was dexterously incised by means of a gorget, cutting on both edges, and which was passed into the vagina at first horizontally, so as to nick each side of the vagina, right and left, then obliquely from right to left, and from above downwards, and lastly, from left to right and from above downwards, thus making six incisions with a view to destroy the fibrous and condensed material supposed to be lying outside of the mucous coat. As soon as this was done, an application was made of caustic potash, which was immediately neutralized by injections of vinegar and water. The pain of this operation was very great; but the dilatation was quite free. The lady soon

recovered from the pain of this operation, and returned to her own state, with a metallic dilater to be used from time to time, with a view to maintain the degree of dilatation thus obtained. I have learned that the success was only temporary, and that the narrowness has returned, so that she has had no substantial benefit from her sacrifice.

I have long been well satisfied, that in the dilating of strictures of the urethra, a perfect success is most apt to follow the gentlest mode of operation: I have also familiarly noticed the effects of the pains of labour on the cervix uteri, as well as on the vagina and perineum. Now, in this case, when a contraction of the womb takes place, the presenting part of the child is impelled against the resisting cylinder or cone of the cervix uteri, and often without causing the part to advance at all, at least in appearance; but the strain and pressure are followed by a *disposition* in the resisting part to yield, so that at the next pain the part is found to give way very considerably, and this process is repeated both as regards the cervix and the vagina and perineum, and it is by acquiring the *disposition* to yield, that they are enabled to yield without rupture of tissues. A direct application of the force not withdrawn, as by the intervals of labour pains, would inevitably rupture them. I will not pretend to explain the physiological cause of this yielding temper, acquired even by non-muscular structures under pressure, but I have applied the fact to the treatment of manual operations in labour. My hand cannot find room to pass into the vagina in a case of exploration or turning, until, by repeated attempts and pressure, the parts acquire the disposition to yield, every successive pressure finding the resistance weakened. In the treatment of the worst forms of stricture of the urethra, inveterate from fifteen years of duration, it is my custom merely to pass a bougie that can be moved forwards without pain, to leave it in situ for a few moments, and then to use one a little larger the next day, and so on in succession each day, until a full-sized instrument is passed. In doing so I find that the antecedent smaller, has given the *disposition* to yield to the succeeding larger bougie; and that the disposition or temper of the tissues so acquired, is not lost until after the lapse of several hours.

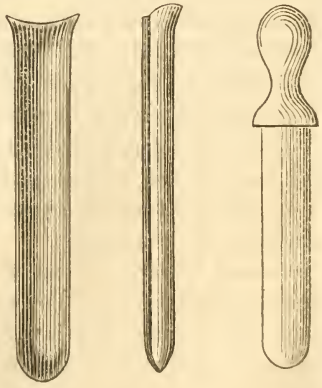
It has already been stated in this work, by M. Colombat, that the female urethra itself is capable of very great dilatation, even equal to the admission of the index into the bladder. The rectum can, by patient trials, be made to yield sufficiently to admit the hand into its cavity. Under such views, it appears to me unnecessary, in any case of narrowness, to resort to other than simple methods of graduated dilatation. I have no belief that the vagina ought to be, from the nature of its physiological office, nor that it is, in point of fact, composed of a fibrous tissue; but that it is a mucous tissue lying in the midst of a condensed mass of cellular laminæ and vessels and nerves. Under these impressions I should not deem it proper to use cutting instruments in the treatment of congenital narrowness or accidental stricture of the canal. Early in the year 1843, a gentleman from a distance

came to me with a letter of introduction, and communicated the information that he was two years married, but had been hitherto unable to consummate the marriage on account of some obstruction, for the discovery and removal of which he had been induced to come to this city, bringing his lady with him. I visited her, and found a very healthy and fine young woman, about twenty-four years of age. She had menstruated regularly, and enjoyed in all respects good health. Her menstruations were somewhat painful and tedious.

Upon separating the labia, I was for some time at a loss to discover any appearance of a vagina. The clitoris and nymphæ, as well as the labia, were perfectly developed; but instead of the os magnum there was, to all appearance, a complete shallow cul-de-sac. It was not until I had repeatedly pressed the end of a probe against various parts of the extremity of this cul-de-sac, that I found it to make progress, and at length find its way along the course of a vagina, which appeared to be filled by the probe, so strict was the narrowness. I next introduced a small block-tin bougie, and then a middle-sized urethra bougie, which was closely embraced by the vagina. I succeeded, on this first occasion, in carrying a full-sized urethra bougie to the bottom of the vagina. On the following day I used, without difficulty, a larger bougie, and with much force and no little time, introduced the index finger as far as the os uteri.

I now introduced a half hollow cylinder of German silver to the bottom of the vagina, and then concealing the apex of a similar half cylinder in the groove of the first one, I carried it also to the bottom of the vagina. One was to the left, the other on the right side of the vagina, and when both were adjusted, they equaled in size the index finger, which I had been before able to introduce. Fig. 12 is a representation of one of them, and Fig. 13 resembles it viewed in profile. I next pressed into this speculum or dilater the conical bougie, made of wood, Fig. 14, and very slowly carried the apex forward, until its point was carried home, or to the extremity of the half cylinders. The dilatation gave pain, but I did not think it very severe. At several subsequent operations, I separated the half cylinders while in the vagina by a larger bougie than the one before mentioned, which I considered large enough, and then furnishing her with a hollow silver gilt bougie, about one inch and a quarter in diameter, which passed without the least difficulty to the bottom of the vagina, I sent her home with directions to pass the bougie once a day.

Fig. 12. Fig. 13. Fig. 14.



Within a few days, (May 20, 1844,) I had a letter from the gentleman, requesting me to send him another silver gilt bougie rather larger than the last, and stating that he believes that with such an instrument the cure will be complete. Here, then, is a case of congenite narrowness of the entire vagina in a lady two years married, which barely admitted a probe for the admission of which the orifice was with difficulty discovered, and which, without *great* pain, or the least evil consequence, was cured by means of a simple apparatus for successive dilatations. I have not any doubt of the permanency of the cure, for I am sure that the congress is possible, and that alone will suffice to maintain the advantage already gained. Should the lady be the subject of a future pregnancy, the cure will be beyond the possibility of relapse. I confess, that seeing the fine health enjoyed by the lady in question, the regularity with which the catamenial office is performed, and the fitness of the organs, I am in hopes of learning that conception has taken place, and I should entertain no fears of rupture of the vagina, under the distension of a labour with normal presentations of a full-sized fœtus. It is, however, a question whether the imperfect dilatation of a congenital narrowness of the vagina is to be esteemed a piece of good fortune for the female herself, since there may remain an insufficient means of dilatation for the delivery of a child. A case that fully sets forth the dangers attending delivery in constricted vagina, is related in the *Illinois Med. and Surg. Journal* for May, 1844. It is stated by Daniel Brainerd, M. D., a highly instructed and able practitioner and teacher at Chicago. Dr. B. was called on the 8th April, 1844, to examine the body of a Mrs. Donnahue, who had died eight hours before in labour. Labour pains began on the 2d April, but the pains went off entirely, so that she was going about on Thursday quite well. Labour began again at 2 A. M. on Friday, and continued that day; on Saturday the patient became suddenly ill, with cessation of the labour pains, and the signs of rupture of the womb. She died on Monday, the 8th, at 2 A. M. Dr. B. found the womb ruptured transversely in front, just above the vagina, and the child and placenta lying in the peritoneal sack, which prevented the usual results of metro-peritonitis.

Upon Touching, the vagina was found to be closed above the middle by adhesions which seemed perfectly to have obstructed the passage, and a firm band was found to extend from the left side of it upwards and backwards, to its termination; so also after the belly had been opened, drawing the wound upward, "a rent was perceived at its anterior part, immediately above the attachment of the vagina, extending from side to side. Passing the finger through this into the vagina, it was arrested, as below, by the adhesions, and with a finger on either side, the septum appeared to be half an inch in thickness, and of very firm texture." "The closure of the vagina appeared to be perfect, with the exception of a canal through which a quill of small size might be forced, the orifices of which were obscure.

The septum itself was very dense, and composed of the fibrous tissue of cicatrix."

It appears further, from Dr. Brainerd's statement, that the woman was twenty-eight years of age, robust, and had had two children, the first still-born, after a severe labour, the second still-born at the seventh month, after a labour of four hours, having suffered very little.

It appears to me, from the perusal of the case, that the womb was lacerated in vain attempts to overcome the resistance of this stricture of the vagina, and as the woman was seized with symptoms of labour on the 2d of April, there was time between that and the 6th, when the organ gave way, to have dilated the vagina by the bougie and the instrument I have described, or even by sponge tent diligently employed. I have preferred to state this important case in brief here, in order to raise the question as to the safety of exposing a female, by an imperfect dilatation of a congenite narrowness of the vagina, to the dangers consequent on conception; and also to show that in this instance fecundation took place, though the aperture barely admitted a quill of small size.—M.]

Congenite narrowness of the vagina does not always prevent conception, which may be effected, in some instances, without the intromission of the penis. The cases already cited at page 76, and others in the records of medicine, are too numerous to leave the least doubt upon this point. "There may be found," says Boyer, in the *Memoires de l'Academie des Sciences*, 1774, "a case of narrowness of the vagina, which disappeared during pregnancy without any artificial aid. A married woman, sixteen years of age, had so narrow a vagina that a common quill could not be passed into it. It was not closed by any membrane. At the menstrual period she felt a pain in the region of the womb, which, without doubt, was due to the difficulty of discharging the menstrual excretion through the vagina, which was narrower near the uterine than the vulvar extremity. Independently of the sufferings she experienced from her menstruations, she was troubled with a young and vigorous husband, who hoped to force a passage, but in vain. At length, after eleven years, she conceived, while not the least change had been effected in the state of the canal. Her surgeon was satisfied that she could not be delivered *per vias naturales*. Nevertheless, at the fifth month the vagina began to dilate, and continued to do so, and at length acquired the ordinary dimensions of the healthy vagina, and she was happily brought to bed." The same collection, 1748, contains an analogous case. A lady, at Brest, had the vagina so narrow that it would scarcely admit of the introduction of a quill. Notwithstanding, she became pregnant, and in three hours of labour, gave birth to a large healthy child. In this case the dilatation took place only on the night of the labour.

The *Lancette Francaise*, *Gazette des Hopitaux*, for August 14, 1832, contains an extract from the *Brazilian Medical Review*, relating the following case. A mulatto woman was violated by a

Brazilian. Her mistress, who did not notice the enlargement of the girl's abdomen, and who supposed the servant to be affected with dropsy, administered a variety of medicines supposed to be of a deobstruent character. In the course of a few months the pregnancy was evident, and a surgeon, who was called upon to attend the case, found the vagina so narrow as scarcely to admit the introduction of a writing quill. She was safely delivered.

We shall conclude our remarks upon narrowness of the vagina by one additional case. Mad. C.***, twenty-eight years of age, who had been ten years married, but without being able to admit of the consummation of her marriage, having applied to Dr. Caron du Villards, that gentleman ascertained that she had a congenite narrowness of the vagina, so great as to permit, with difficulty, the introduction of a common catheter; and he recommended the dilatation by means of gum elastic bougies, gradually increasing the size of the instruments to be used. After a perceptible increase of size of the canal had been in this way obtained, he substituted for the bougies, a sort of chaplet of sponge tent, the discs of which were cut out by a punch. The discs of sponge tent were strung upon a proper thread, and strongly pressed together so as to compose a single cylinder, capable of being admitted into the vagina as readily as a bougie of similar size. After some weeks' continuance of the use of this powerful dilater, the vagina had become so ample that Madame C.*** became pregnant, and was safely delivered under the care of M. Hatin, adjunct Professor of the Faculty of Paris. M. Caron du Villards informed us of a similar successful treatment, in the case of Madame Taforeau, thirty-four years of age, and who had been married since her fourteenth year, and who now is Portiere at No. 13 Rue de la Seine. The only difference in the two cases is that the latter person has not become pregnant, as Mad. C.*** did, who, it must be remarked, was a younger woman.

In some cases the vagina is so narrow that the canal seems to be quite lost.

## OF ACCIDENTAL OBLITERATION AND STRICTURE OF THE VAGINA.

By *obliteration* of the vagina, we understand either an accidental adhesion of its parietes, whether more or less complete, or a stricture of the canal affecting its whole extent, or only a part of it.

The causes of vaginal obliteration are always accidental: when it is incomplete and constitutes only a stricture, the diagnosis of the case may very certainly be made either by the introduction of a probe, or by ascertaining that the menses have a proper issue. When the obliteration is complete, the walls of the vagina are more or less adherent over an extent that varies in the different samples; but so that there exists no communication whatever between the womb and the vulva.

Adhesion and stricture of the vagina may be situated at the lower end, at the centre, or at the upper extremity of the tube. These two sorts of obliteration that commonly are the results of violent inflam-

mation, or any of the causes that we before pointed out, while on the subject of imperforation, may likewise be occasioned by the thickening and induration of the vaginal tissue, which sometimes follow the imprudent use of astringent injections, employed to remove the traces of libertinism. The spontaneous swelling of the mucous glands, of the rugæ and the adipose cells of the vagina, is also to be regarded as among the causes of obliteration of the tube, more or less complete.

Dr. Ségalas, in 1825, communicated to the Acad. de Med. the case of a woman whose vagina having been obliterated in consequence of a laborious labour, caused a complete retention of the menses to take place. At the sitting of March 22, 1834, there was communicated to the Academy the case of another woman, whose vagina was obliterated in consequence of the injection into it of half a glassful of sulphuric acid, which she did herself, with the wicked intention of bringing on abortion. As the upper two-thirds of the canal were obliterated, the womb gave way by laceration, and the unhappy creature died undelivered.

[It is surprising to reflect on the rapidity with which occlusion of the vagina may take place after parturition, and that without any perceptible cause or sign being evident, by which it may be known that the process of obliteration is going on.

About two years ago, a young woman at Salem, New Jersey, gave birth to a healthy child after a moderate labour. She had no illness during the lying-in, and was in all respects as well as women usually are. At the end of the month she rode to the distance of twenty miles from home, to the funeral of a relative, and returned the next day. It was now ascertained that there was no passage beyond the bottom of the vulva, and she was brought to this city that I might take charge of the case. Upon separating the labia very widely, I found a puckered seam at the bottom of the vulva; but I could nowhere make a probe pass into the vagina, so that the atresia was complete. The anterior wall had cohered with the posterior wall of the canal. She came here when her child was about two months old, so that the cohesion was not yet so firm as to indicate the use of the scalpel, for the purpose of effecting its disruption.

According to my own experience, the cohesion of the labia in young children, may be easily overcome by pressing upon the seam with the bulb of a probe, and I have always readily succeeded by operating in that mode. In the case of this woman I adopted the same plan, and keeping the genital orifice strongly stretched with the thumb and medius, I made horizontal touches with the bulb of a probe at the points of union, and without losing more than two or three drachms of blood, succeeded in breaking up the cohesion of the opposing mucous walls, the villi, which seemed to be mutually implanted in the adverse surfaces, drawing out in the distraction of the labia and the touches of the probe, precisely as happens in the breaking up of cohesions of the labia. I soon made an aperture, through which I readily passed the index finger to the os uteri. I recommended to her physician

the continued use of cereoles, to be prepared extempore and used daily, until the full amplitude of the organ should be restored. The cohesion occupied more than a quarter inch of the calibre of the vagina.

In the following case the vagina was *lost*, and is cited from the *Philad. Pract. of Mid.*, by the translator of this work, p. 383, 2d edit.

"A woman, from a distant part of the country, came to the city last spring, (1837,) to consult Dr. J. Randolph, who was good enough to invite me to see the patient with him. Her story was as follows. More than two years have elapsed since she gave birth to a healthy child, the labour being so exceedingly rapid that the infant was born before the physician could reach the house. The after-birth did not come away for an hour, during which time there was flooding. The woman became very weak. In a few days she was attacked with inflammation of the vagina, accompanied with enormous discharges of matter *and great thick pieces of flesh*, to use her own account. She was never examined by her physician, who, however, directed washes, injections, &c. After a long and exhausting hectic, attended with extreme emaciation, her discharges grew less copious, and she gradually, and at the end of some months got well. There was, however, no vagina; not even a cul-de-sac; there was only the genital fissure left. Of course no catamenia could appear; but after several months of good health, she began to complain of pain or *misery* in the hypogastric and pelvic regions. The pains recurred with intervals of a month, and having at length become intolerable, she found her health declining, and came, as before said, to consult that able and eminent surgeon, Dr. Jacob Randolph.

"There was a tumour in the hypogastrium that reached half way up to the navel; it was of a firm and resisting feel, not unlike a contracted womb soon after delivery. As there was no vagina, the finger was passed into the rectum, where it came in contact with the same tumour, which seemed to occupy the excavation as it is occupied by the child's head in labour, filling up the cavity entirely. Upon separating the labia there was nothing but the genital fissure: there was no way for a probe to pass upwards. A sound was passed into the bladder and retained there until a finger was also introduced into the rectum. The only texture that separated the sound and the finger seemed to be, upon careful examination, the walls of the urethra, and the coat of the bowel; there was no vagina to be felt. Hence Dr. Randolph and I agreed in the opinion that the vagina had been wholly destroyed by the sloughing process which took place shortly after her confinement. We entertained no doubt as to the nature of the tumour which occupied the pelvis and lower part of the abdomen; it was the womb hermetically sealed, and retaining within its cavity the accumulated menstruations of nearly two entire years.

"After much diligent search, we were unable to discover the cervix or os uteri; but we supposed they might possibly be turned upwards towards the top of the os pubis, so as to elude any investigation made through the

rectum alone, the only possible way of making researches in the case. No vestige of a vagina was discoverable by the taxis; nevertheless, supposing it possible that the whole of the tube might not have been destroyed, and that haply its upper extremity might be reached by the bistoury, Dr. Randolph operated with a view to make an artificial vagina, and to discover the remainder, if any, of the original one.

"Introducing a strong metallic staff, slightly curved, into the bladder, he took his seat in front of the patient, who laid upon her back on the bed with the knees drawn up and separated. I held the staff firm, while, with the left index in the rectum, to serve as a guide, he dissected by horizontal strokes of the bistoury, the tissue betwixt the rectum and urethra, and carried his incision very nearly up to the substance of the womb itself, without having wounded either the rectum or the urethra: when he had completed his incisions, the finger could be carried up to the bottom of the cul-de-sac he had formed by so skilful and accurate a use of the bistoury.

"In consequence of our uncertainty relative to the situation of the os uteri, and from his having successfully removed so considerable a portion of the barrier that opposed the escape of the contents of the uterus, Dr. Randolph suspended his operation at this point with the following views.

"It was resolved to keep the passage open by the use of a bougie, made as light as possible and of a sufficient size. The bougie was made of silver, gilt, about four inches in length, and about as large as the thumb, its weight not more than two drachms, being hollow. We hoped that by using this bougie a few months, the progress of the case would be such as to bring the os uteri to the extremity of the instrument, by means of the increasing expansion of the uterine globe, and that the contents of the womb would discharge themselves into the artificial vagina, or that they might be so discharged by a future incision. The lady returned to her own country, and after an absence of three months, came back to the city, still suffering under the same *misery*, with increased magnitude of the uterus, but without having had any discharge from the vagina. She had constantly worn the bougie. Upon examination, we found the vagina was now covered with a smooth surface resembling mucous membrane; the upper end of the bougie, when withdrawn, was covered with a sort of muco-purulent matter, tinged with blood. The sufferings of the patient from the distension of the womb were very great, and it was on that account resolved to puncture the organ in order to draw off its contents. On the 8th July, 1837, Dr. Randolph and Dr. R. M. Huston, who had been invited by us to witness the operation, met me at the lodgings of the patient.

"The tumour, felt through the vagina, was hard and resisting, like an enlarged ovarium; it was softer, and its walls thinner when examined through the rectum. At Dr. Randolph's request I made use of a curved trocar enclosed within its canula. The trocar was about five inches in length, and about the size of a small writing quill. The patient was laid

upon her back near the edge of the bed. I introduced the forefinger of the left hand into the rectum, and having directed the end of the finger to a point upon the tumour that felt most yielding, carried the point of the trocar along that finger to the place in question, and giving to the point of the instrument a direction as nearly as possible perpendicular to the surface of the tumour, pushed it through the resisting tissues until I found it had freely entered the cavity of the womb; the trocar was now withdrawn, leaving the canula in its place. There immediately issued from the open end of the canula a dark red viscous substance, without odour, of the consistence of meconium, and as adhesive as that substance. The puncture was scarcely felt by the patient. In the course of twenty-four hours, during which the canula was permitted to remain in situ properly secured, about twenty-five ounces of this fluid were discharged; the uterine tumour had disappeared from the hypogastrium, and the mass, as felt through the rectum, was greatly reduced in size, and far more movable. As all the liquid seemed now to be evacuated, the canula was withdrawn; no discharge followed its withdrawal. The patient had no symptoms attributable to the puncture; she rapidly recovered her strength, and left the city with renovated health, and nearly free from the *misery* that had so long embittered her existence. In the course of about a month after she returned to her home, she had a very copious discharge from the vagina, of a fluid similar in consistence to that which came away through the canula, but of a whitish colour, after which her health greatly improved.

"On the 14th Dec., 1837, while on her way to this city, for the purpose of taking further advice, she discharged about twenty-five ounces of a substance in all respects similar to that which was first extracted.

"In the course of the summer of 1843, I again saw this lady. Her health was good; she has tolerably regular menstruation, which gives pain. The artificial vagina has disappeared, leaving a sinuous opening, very small, which communicates with the cavity of the womb, and by which she menstruates. She could not be prevailed upon to submit to any further treatment. I think it highly probable that the sinus could be readily dilated into a full-sized vagina."—M.]

Notwithstanding that in some of the cases the adhesions can be easily and without much effort broken up, yet in other circumstances, the purulent matter becomes thickened to such a degree as to form, with the vaginal surfaces, a sort of solid concretion, capable of resisting the greatest violence, especially if the cohesions are of long standing.

[I cannot avoid remarking the singular use of the word purulent in the above passage. I presume it is to be understood as referring not to pus, as such, but to the coagulating or organizable lymph, which is the bond of union in such cases.—M.]

Where the inflammation has been very violent, the rugæ of the

vagina become so confounded with each other, that it becomes nearly impossible to dissect them up without perforating one of the sides of the canal, and wounding either the bladder or the rectum; the degree of the inflammation, then, may serve as the index of indication, as to whether an operation should be attempted or rejected, for it is as dangerous as it is difficult, where the obliteration exists for the whole extent of the tube. In such cases, Morgagni proscribes it entirely, and Blasius, as well as Bénévoli, each of whom had the temerity to dissect the vaginal parietes after they had been coalesced from inflammation, was obliged to leave the operation unfinished. We shall, however, bring forward a case in which a successful result was obtained by Professor Flamand, and which we take from the account given by Dr. Villette of Paris, in 1821. A country woman was delivered by a midwife, who ruptured the vagina. The menses did not return after this confinement; the husband was discontented with his wife, supposing that his embarrassment was owing to her want of condescension. Being at last quite out of patience with her condition, she went to Strasbourg to M. Flamand's clinic, in order to undergo an operation. There was found a very small opening, that with difficulty admitted the introduction of a grooved director, but what was the surprise of the learned professor to discover that four inches of the vaginal tube had cohered! In spite of the difficulty of the case he succeeded in removing the deformity, for she had a child a year afterwards.

Where the obliteration is not complete, we may succeed in arresting its progress, at first by antiphlogistic measures, and by promoting the dilatation of the vaginal parietes by baths, fumigations and emollient injections; and by the use of vaginal suppositories of *beurre de cacao*, and the use of the dilating measures heretofore pointed out, while speaking of congenital narrowness of the canal.

Among the fittest means for the fulfilment of this last-named indication, there is one we have made use of with great advantage, and which is recommendable as being both easy of performance and not at all painful.

It consists in introducing within the vagina a cylindrical sac, very thin and soft, and which is made of the cæcal appendage of a calf or a sheep, and which was introduced by an English physician named Condon, for the purpose of guarding the penis against infection in impure coitus. In using this sac, there should be attached to it a gum-elastic sound, so that after the sac has been cautiously introduced into the vagina, it may be filled with air, at first in moderate quantity, and then in quantity progressively increased from day to day. The sac should at first be a small one; the succeeding ones to be larger and larger, and often changed to prevent their putrefaction within the passage. The air may be prevented from escaping by a small cork fixed to the outer end of the gum-elastic sound, or by adjusting upon it a small brass cock, which would conveniently allow the air to escape a little if the sac should happen to be painful from too great an inflation. The use of this method should be continued until the vagina recovers its natural dimensions.

In the entire obliteration of the vagina, there remains no other remedy than a dangerous and difficult operation which we shall describe under the head of obturation of that canal.

## OF OBTURATION OF THE VAGINA AND THE MEANS OF CURE.

In pathology the word *obturation* refers to the accidental development of any substance, filling up more or less completely a natural cavity.

*Obturation* of the vagina, which indicates either the presence of a foreign body in the tube, or an intermediate substance confounded with its walls, has excited but little attention among medical men because it has been rarely presented to their observation.

A vaginal obturation may be complete or incomplete, congenite or accidental. The causes of accidental obturation must be regarded as symptoms of other pathological lesions, and not as organic affections. Such are the polypous, fungous or syphilitic excrescences, membranous bands and fleshy columns developed in the vagina, the swelling and mutual approximation of the carunculæ,* encysted and steatomatous tumours, vaginal hernia, and, indeed, all sorts of tumours and vegetations that may take their rise upon the mucous membrane of the vagina, or which, though foreign to it, may nevertheless project into or against its calibre.

An obturation may even be produced by prolapsus of the womb, the cervix of which may contract adhesions to the internal edge of the labia externa. A case of the kind is recorded in the *Dict. des Sci. Med.*, (article Vagina,) less as a case of obturation than because the os uteri being partially open, so as to admit the finger, any want of attention might lead to the mistaking of the orifice for that of stricture of the vagina.

When the obturation is congenital, it may, like the accidental case, be complete or incomplete, and occupy a greater or less extent of the vagina. That canal is, therefore, susceptible of becoming primarily obstructed, not only at any given point of its surface, but even throughout its whole extent, which is, in such a case, converted into a solid cylinder, very thick and composed of a cellulo-fibrous material, quite analogous to the substance of the vaginal parietes.

Like the vaginal imperforation, the obturation of the tube is, for the most part, undiscovered until the age of puberty, or until symptoms relative to amenorrhœa lead to its detection. However, the

* Riolanus, who was appointed Professeur Royal d'Anatomie by Louis XIII., and afterwards became physician to Queen Mary de Medicis, has published (*Anat. seu Authrop.* cap. 2. p. 35,) the case of a woman in whom the carunculæ myrtiformes were so closely approximated, that it was hardly possible to introduce a probe into the opening betwixt them. Notwithstanding this almost complete obturation, the patient was happily delivered of a child, after the excision of the tumour had been performed. There is also, in the xxiv. vol. of the *Dict. des Sci. Med.*, p. 133, a case in which the shreds of the hymen, after defloration, had united again so as to form a complete diaphragm in the lower part of the vagina. The myrtiform caruncles have been sometimes mistaken for syphilitic excrescences; to mention is sufficient to avoid such an error. Our readers should reflect that the fleshy lumps resulting from the destruction of the hymen are generally smooth, loose and of a rose tint.

symptoms accompanying obturation are in general less severe than those of the other case, because it has been found to coincide almost always with an imperfect development of the womb itself, which militates in favour of the principle set forth by M. Andral,* that a part is generally not found to be wanting or imperfectly formed, unless those that precede it in the natural state have themselves undergone an arrest of development.

Although obturation of the vagina, when complete, or even incomplete, renders the sexual union impossible, the partial introduction of the penis may be effected if the obstacle is found only at the upper end of the canal. A woman so constituted would be exposed to great danger by too violent an effort in coitû. The vagina might be ruptured, as in the case mentioned by Plazzani in the following words. "*Juvenis quidam, cum sponsa juvencula prima nocte congressurus, valida veretri intrusione et violenta festinatione non modo uteri cervicem, sed et ipsum intestinum rectum perrupit.*" (*De Partib. Generat.*, lib. ii. cap. 14. p. 164.)

As the records of medicine possess but few authentic cases of vaginal obturation, we shall report some cases by Dehaen, Morgagni, Lieutaud, Foderé, Cormick, Professor Stoltz, and mentioned also in a thesis by Dr. Waille de St. Lupicien, as now to be related.

Dehaen† speaks of a girl twenty-four years of age, who, dying in consequence of retention of the menses three days after an unsuccessful operation, in which the instrument penetrated the urethra and to the neck of the bladder, was found to have part of the vagina converted into a solid fleshy body an inch in diameter, beyond which the passage was filled with a dark-coloured sanies, and was of capacity sufficient to contain the head of a fœtus.

Morgagni,‡ while making the autopsy of a female seventy years of age, who died with peripneumony, after having been long subject to an asthmatic disorder, found the vagina completely obstructed except at each extremity, by a sort of solid cylinder composed of a substance uniformly white and pretty hard, so that it was not possible to discriminate betwixt it and the parts surrounding it and continuous with it. The vagina did not appear to have lost any part of its diameter. The walls of the uterus were thick, the orifice small, the inner surface somewhat moist, and the lower part of the cervix contracted.

A woman named La Hure,§ of the Faubourg du Temple, at Paris, having never been indisposed, notwithstanding the absence of the catamenia, and having been six years a wife without the consummation of the marriage, was examined and unsuccessfully operated on, August 6th, 1734, by Dejours, the surgeon, and was subsequently examined by Levret, and afterwards by Saumet, Ferrin, Petit and

* Anat. Pathol., t. i. p. 109.

† Ratio. Medend., t. iii. pars. 6. cap. 2; Lieutaud, Histoire Nat. Medicale, t. i. p. 326; Dict. des Sci. Med., article Imperforation; Duges Mal. de l'Uterus, t. i. p. 271.

‡ Lettre 67 and 10.

§ Causes célèbres, t. vii. and 10. 20. cause; Foderé, Med. Leg., 2d edit. t. i. p. 385; Dict. des Sci. Med., article Marriage.

Morand. She died at Lyons ten years after this, and upon the autopsy it was discovered that the womb and the vagina constituted merely a compact solid substance, without any cavity.

Dr. Cormick* was called to examine a woman twenty-three years of age, who, from the age of sixteen, had felt once a month the symptoms arising from retention of the menses; and was a victim of the most intolerable pains. Upon exploring the genital parts he found a fleshy resisting mass, that appeared to fill up the whole vagina. He was obliged to plunge a trocar to the depth of four inches, before he passed through the obstacle that prevented the escape of the menses.

To these four cases we shall add a case from the practice of Mr. Stoltz. It appears to us to be the more interesting, as differing from the others in the total absence of bad symptoms, and as presenting a specimen of perfect obturation, with distinct parietes, and in the facility and the happy success of the operation undertaken for the cure.

Madame N., of Stotzheim, had reached her twenty-third year without having menstruated. The only menstrual efforts she had experienced consisted in attacks of epistaxis, which, at the age of puberty had recurred, but without any character of periodicity; and from time to time, every week or every fortnight, pains in the hypogaster, but not affecting the region of the sacrum at all. Having been married in the year 1827, it was impossible to consummate the union, and it was not until four years had elapsed, that is, in 1831, after she had been four years married, that she submitted to an examination by a midwife, who found the orifice of the vagina closed.

M. Stoltz, being requested to see the lady, Sept. 25, 1831, for the purpose of performing the operation, found her of middling stature, the countenance perfectly feminine, the mammæ pretty well developed, the skin fair and soft, the mons well covered with hair, the external genitalia of a natural appearance, and, learned in a word, that she had all the attributes of the sex, except that the orifice of the vagina was closed by a thick membrane, salient some eight or ten lines like the end of the finger of a glove, and which admitted of being pushed back to an equal distance into the canal of the vagina, like the finger of a glove turned inside out. This projecting part was somewhat wrinkled, of a rose colour, and perfectly indolent.

At first, M. Stoltz was of opinion that it would only be necessary, by means of scissors, to cut off the principal part of this membrane, in order to open a free passage into the vagina. But he found that the excision only gave access to the interior of a small sac filled with white mucus, of a milky character, and found that the vagina was completely obstructed and filled with a cellulo-fibrous material, which he partly dissected with the scissors, introduced as far as he could properly use them, and then with the index and medius fingers introduced into the passage; after which he broke up the bands or bridles that remained with a Flamant's guarded bistoury. In order not to

* Med. and Philos. Commentaries, vol. ii. p. 188; Voigtel Handbuch der Pathol. Anat., p. 438.

lose the direction of the vagina, he placed a sound in the urethra, which enabled him to distinguish both the urethra and the bas-fond of the bladder.

After having thus torn up the cellular bands that obstructed nearly the entire length of the vagina, with his fingers, partly by separating them in various directions, and partly by using them as blunt crotchets, he at length reached a small hard tubercle, divided by a transverse slit into two parts. This was the vaginal portion of the cervix uteri. He succeeded, with great difficulty, in breaking up the bands that concealed it like a thick spider's web. By means of the fingers in the vagina and the sound in the bladder, and also by depressing the hypogastric integuments sufficiently to meet the fingers in the vagina, he satisfied himself that the tubercle was nothing more nor less than the womb itself in a rudimental state, and from five to six lines in length from top to bottom. A careless operator, or one not thoroughly acquainted with the anatomy of the parts, might very readily have broken through one of the culs-de-sac of the vagina, while endeavouring to find the womb itself.

After the completion of the operation, the vagina was found to be sufficiently capacious to admit of the consummation. The constrictor muscle was found to be perfect by its contraction on the index. A stout pledget of lint with a tape fastened to its base, and spread with cerate, was introduced into the vagina, and directions were given to the midwife to change it twice a day.

The operation was not very painful, the patient made no outcries, and she did not lose more than half an ounce of blood.

Fifteen days afterwards the midwife informed M. Stoltz that the lady had discovered a slight discharge of a few drops of blood from the vagina, which was at first attributed to an imperfect menstruation; but as it did not return, it was thought that it might have proceeded from a congress, with some laceration.

Two years and a half had elapsed when M. Stoltz received the last accounts of the state of his patient. She was in the same condition, had never menstruated, felt from time to time, and at nearly equal intervals, the symptoms of the catamenial action, and had no difficulty in the cohabitation.

Inasmuch as the symptoms of a case of obturation might be confounded with those of imperforation or obliteration, and of absence of the vagina, we shall now call to mind some striking traits that may suffice to remove all uncertainty on this point.

Where the imperforation is incomplete, menstruation may take place; if it be complete, the finger, if introduced within the vulva, encounters a membrane forming a fluctuating tumour, with an oval projection more or less prominent in front, and in such a case, a simple incision dispels every doubt and dissipates every symptom. Where the occlusion is owing to incomplete obliteration, the discharge of the menses takes place, and a style may be passed into the contracted vagina: if the obliteration is complete, and affects the whole breadth of the canal to a greater or less extent of its longitude, the diagnosis of the case, *which is always accidental*, may be

made out by examining by the rectum. and with a sound introduced into the bladder. The obstacle that results from *obliteration*, instead of being as in *obturation* a compact, thick cylindrical body, filling up the vagina, consists in a pretty thin membranous septum, or in cohesion of the sides of the canal,—a cohesion that may affect the whole length or only certain points of it. Moreover, in the case of obturation, if the finger be introduced into the vulva, it will be arrested by a very resisting body, whereas in imperforation and obliteration, the obstacle is always movable, membranous and fluctuating.

Nearly all the authors who have spoken of occlusion of the vagina have furnished few details on the subject; and have confounded the accidental agglutination of its parietes with obturation of the canal produced by the intermediate body, whose principal characters we have now pointed out. This is probably the reason why they designate these new kinds of occlusion by the same term obliteration, and that they denounce the operation as impracticable and very dangerous in all instances, wherein the obstacle extends to some depth into the vagina.

Naboth,* who participated in the generally admitted opinions, and who also confounded the accidental cohesion of the vaginal walls with the congenital obturation in question, said that when there existed an intermediate fleshy body, the operation ought to be renounced, for there would be reason to apprehend either a dangerous hæmorrhage or very serious inflammation as the consequence of its performance. Morgagni,† who entertained the same notions, advised his women rather to submit to divorce than suffer an incision to be rashly made. Heister‡ also refused to operate for two females who came to consult him; lastly, Plenck,§ Mahon,‖ Foderé,¶ and nearly all the writers on medical jurisprudence look upon this sort of atresia as cause of absolute impotence and beyond the reach of art.

Notwithstanding the well or ill founded and generally exaggerated fears of the writers on this subject, we are of opinion that circumstances may exist to indicate the propriety of an operation; but that the greatest prudence is required on the occasion; care being taken not to wound the bladder or rectum. Even if it be true that the results have, in a major part of the instances, been unfortunate, it may with propriety be attributed to the method having been ill chosen, or the case having been contra-indicated, as ordinarily happens when in consequence of a complete obliteration, the walls of the vagina have become agglutinated throughout their entire extent.

Previously to making any attempt at operation it would be the dictate of prudence, always to wait until compelled, as it were, by the occurrence of symptoms of retained menses, or of other symptoms threatening the very life of the patient; and which thus afford proof, not only of the existence of a womb, but of its not communicating with any other cavity—which, were it the case, would render the operation useless.

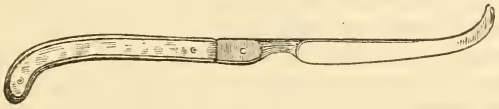
* Disput. de Sterilit. Mulierum, p. 23.
‡ Institut. Chirurg. t. ii, p. 403 and 405.
‖ Médicine Légale, t. i, p. 63.
† Lettre, No. 46.
§ Elément. Med. Chir. Forensis, p. 3.
¶ Méd. Légale, 2d edit. p. 384.

SURGICAL TREATMENT OF ACCIDENTAL COHESION OF THE VAGINAL PARIETES; AND OF CONGENITAL OBTURATION OF THE VAGINA.

In a case where the necessity for action is clearly established, the patient should be prepared for it in the same manner as if about to undergo one of the greater operations of surgery; but if upon a retention of the menses, symptoms should arise deemed sufficiently important to menace her safety, no delay should be allowed. In such an instance the only preparation would consist in evacuating the rectum and bladder, with the view of rendering them less liable to be wounded by the bistoury.

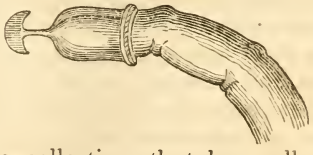
Whether the design be to dissect asunder the vaginal walls accidentally coherent, or whether we be about to treat a case of congenital obturation produced by an intermediate membrane, the patient should be placed as for the operation of lithotomy; then having introduced the index finger of the left hand into the rectum and a sound into the bladder, for the purpose of exploring the parts anew—and to give a surer direction to the knife, the incision should be made little by little with a straight bistoury, or, with what we should prefer, a convex scalpel—and thus the walls of the vagina should be separated, proceeding with all the prudence and care demanded by so serious an operation.—(See Fig. 15.)

Fig. 15.



That we may be able throughout the whole course of the operation to retain one finger within the rectum, and at the same time be acquainted with the situation of the adjacent parts without being compelled to make use of the left hand, we have invented an instrument which is adjusted upon the end of the right index finger, like a thimble, and which is terminated by a small cutting edge, convex in shape, and about three lines in length. (Fig. 16.) By using this, we can, with the medius of the right hand, continually inquire as to the resistance of the tissues after each little incision, and guide the cutting edge constantly until it reaches the sanguine collection, that has called for the performance of the operation. After which we should proceed as directed under the head of *vaginal imperforation.*

Fig. 16.



If we are acting, not to remedy a case of obliteration, but a congenite obturation, the operation that offers the greatest prospect of success, in this latter case, and that because there is always an intermediate substance, and consequently a greater space betwixt the rectum and the urethra, ought to be performed as follows, and with the preliminaries already mentioned.

In the first place, if there should be found a membrane projected

outwards at the vulva, and placed in front of the obstacle, it should be removed by the scissors or with a straight bistoury, cutting from before backwards; or, what is still better, by means of two incisions, united below, like the letter V, so as more certainly to avoid the risk of injuring the urethra.

After having performed this little preliminary operation, which will have exposed the real nature of the obstacle, the surgeon will plunge a long narrow bistoury into the middle of the space comprised betwixt the anus and the meatus urinarius, then withdrawing the bistoury, he should introduce the index of the left hand into the wound, in order to dilate the opening thus made, and then continue to push the bistoury forwards, guarding and directing its progress by means of the finger kept near its point.

Should it be preferred, the surgeon may make use of a trocar, which, being introduced gently and carefully, admits of a more rapid operation, which, however, is less certain than the other. For the purpose of guarding against injury to the bladder, a grooved director may be introduced into the wound made by the trocar, and adjusted so as to allow the point of a bistoury moving in the groove, to make two oblique incisions that coincide in the direction of the urethra, like an inverted $\Lambda$.

Whatever may be the method adopted, it is indispensable, for the certainty of the operation, to keep the index of the left hand in the rectum, and to let an assistant take charge of the sound that is in the bladder, directing him, agreeably to Velpeau's advice,* to press the point of it towards the hypogastrium. Throughout the whole course of the operation, the urethra must be raised up by means of the sound, so as to keep it as much as possible out of the way of the cutting instruments.

Should the obstructing substance be found to be yielding, the conduct of M. Stoltz might be imitated, who succeeded in restoring the vagina, and broke up all the bands of cellular matter, by the alternate use of his fingers, the scissors, and the guarded bistoury of *Flamand*. Should a considerable hæmorrhage come on, we might follow the example of Dr. Voisin,† in a case of obliteration, and divide the operation into two stages; and it might be concluded after a short delay, during which the wound should be filled with a piece of sponge tent. After the destruction of the obstacle, union of the parts is to be prevented in the manner pointed out under the head of imperforation of the vagina.

The accidents accompanying this operation that are most to be feared are hæmorrhage and inflammation. The former, when not excessive, prevents the occurrence of the latter, which has never been met with except in cases of imperforation or obliteration. Inasmuch as in both these kinds of occlusion, the assistance of art is not required until after the appearance of important symptoms, the inflammation may be supposed to depend less upon the operation itself than on the sudden change effected in the volume of the womb, and

* Elém. de Méd. Opérat., t. iii. p. 576. † Théses de Paris, 1806, p. 116.

the tension of the vagina and its appendages. In every case let the patient be subjected to the most rigorous regimen, and to an antiphlogistic treatment, conformable to the violence of the fever and inflammation.

Whatsoever may be the nature and extent of the obstacle composing the obturation, the attempt to remedy the difficulty ought not to be deferred when the life of the patient is compromised. The operation is, doubtless, the only plank of safety; but the principles of our art, as well as humanity itself, command us to avail ourselves of it, although liable to be cast upon a shoal, that by means of it we may avoid another and the fulfilment of the ancient adage, so well expressed by Virgil, in the line—

"Incidit in Scyllam, qui vult vitare, Charybdin."

Notwithstanding the proscription of this operation by such authors as Naboth, Morgagni, and Heister, and by many of the modern surgeons, it is sufficiently justified, even admitting its dangerous nature, by the successes of Messrs. Desgranges, Delpech, Cabaret, Ventusa, Flamand, Willaume, Toulmouche de Rennes, Stoltz, and other names that it is unnecessary to cite in this place.

## OCCLUSION OF THE CERVIX UTERI.

In some instances while the vagina itself is perfectly free from obstruction, it is the canal of the neck of the womb that is the seat of congenite obturation, or of a complete or incomplete obliteration.

This deformity, which was first described by Akakia, may depend upon various accidental causes. Thus the sequelæ of a labour, the introduction of a foreign body, lacerations from mechanical causes, the amputation of the cervix uteri, ulcers, burns, tumours, polypi, &c., &c.; these, and all the other causes that we have enumerated in our article on vulvar and vaginal atresia, may serve to explain the formation of occlusion of the cervix, and the retention of the menses consequent thereto.

*Morgagni*, while dissecting the sexual organs of a female, found the mouth of the womb closed up by a white thick membrane that shut off all communication betwixt the cavity of the uterus and the vagina. *Armand*, *Simson and Frank*,* *Messrs. Cabrol*,† *Gauthier*,‡ *Willaume*,§ *Hervez de Chégoin*,‖ *Delpech*,¶ *Desgranges*,** and some other writers, have likewise noticed either obturation or obliteration, more or less complete, of the vaginal orifice of the womb.

The consequences of uterine atresia are perhaps still more dangerous than those of the other kinds of imperforation of which we have already spoken. This arises from the circumstance that in this case we are more easily led into the mistake of regarding it as a state of pregnancy, and as the symptoms have a closer resemblance to those

* De Retentionibus, t. ii. p. 39.
† Ann. Litt. Med. étrang., t. ii. p. 484.
‡ Nouveau Journal de Méd., t. vii. p. 30.
§ Séance de l'Acad. de Med., 23 Mai, 1826.
‖ *Idem* 24 Novembre, 1829.
¶ Mémorial du Prof. *Delpech*, Mar. 1830.
** *Idem* No. du mois d'Avril, 1830.

of gestation, it is more difficult to make the diagnosis of retained menses.

The occlusion may exist in the interior of the cervix, or at its orifice; and there seems to be, according to Boyer, a continuation of the inner membrane of the vagina. Some practitioners, however, among whom may be mentioned Latour, Morland, Flamand and Martin, are of opinion that an obturation can possibly take place during pregnancy.

An examination by Touching, or the inspection of the parts, enables us pretty clearly to distinguish the faulty conformations of the cervix, whether primitive or accidental, and even to observe the fluctuation occasioned by the accumulation of blood in the viscus.

*Bénévoli*, surgeon in chief to the Hospital of *Florence*, who has candidly made known both his success and his errors, was consulted on account of a girl affected with suppression of urine, accompanied with the usual phenomena. Having tried, without success, to introduce a sound into the urethra, he discovered that he could not make it reach as far as the bladder, because the distension of the womb had elongated the urethra. An angle in the canal of the urethra had been formed by the distended womb, which had thrust the bladder itself forwards and above the ossa pubis, so that the orifice of the bladder no longer corresponded with that of the urethra.

Bénévoli, as he could not succeed in relieving the bladder on the first day, put off an attempt to pass the catheter until the next day. Instead of introducing the sound into the urethra, he passed it into the vagina without being aware of the mistake he had made. The instrument, which was directed towards the mouth of the womb, not being able to penetrate into the cavity of the organ, Bénévoli, supposing that it was the sphincter vesicæ under powerful contraction, and, that he might be able to overcome it by force, pushed the sound onwards, and it plunged into the womb. Immediately after this, there escaped a very large quantity of a brownish liquid, resembling wine lees, which was at first mistaken for bloody urine. But after the menstrual collection had come away, the urine was rapidly discharged from the urethra, a circumstance which showed him that he had introduced his sound into the uterus and not into the urethra. The patient, who for three years had found her abdomen increasing in size every month, instantly obtained great relief, with the immediate disappearance of the enormous abdominal swelling caused by the accumulation of menstrual blood in the uterine cavity. Bénévoli estimated the quantity discharged after the performance of the operation at thirty-two pounds.

If, in any case, the symptoms we have described should be supposed to depend on a primitive or accidental faulty conformation, the sexual parts ought to be examined with the most scrupulous care, in order to learn whether the absence of the womb does not furnish an insurmountable bar to the object proposed to be attained.

In order to remedy the occlusion of the neck of the womb, an attempt should be made to pass up an ordinary sound, with a view to overcome the obstacle, if possible. If that cannot be done, then

the resistance should be overcome by means of a puncture, either with a bistoury, wrapped with linen to within a few lines of its point, [or, what is better, wrapped in a ribbon of adhesive plaster spread on fine linen—M.,] or with a trocar, the canula of which, as advised by Hervez de Chégoin, ought to be left in the wound, as a conductor to a piece of gum elastic catheter, to be followed afterwards by a female catheter.

Whatsoever may be the instrument, or the method employed in the operation, the inflammatory consequences require the same attentions that we have recommended in speaking of the operations for atresia of the vulva and vagina. To prevent or combat these dreadful consequences, let it be remembered that they demand the most energetic methods; among which are bleeding, long-continued warm bathing, as of the first rank; the woman should, so to speak, be made to live in the bath until the cure is complete.

## ATRESIA OF THE FALLOPIAN TUBES.

The Fallopian Tubes are two musculo-vascular conduits, floating loose in the abdomen, and extending from the superior angles of the womb to the margins of the superior strait of the pelvis. As these tubes, which are supposed capable of the state of erection, are hidden from our researches in the living subject, it is not possible to ascertain the existence of an imperforation of them except in an autopsy.

Atresia of the tubes, like the other imperforations of the genitalia, is divided into *congenite* or *accidental*, and *complete* or *incomplete* atresia.

The causes of congenital atresia are unknown; in some instances both the tubes may be affected, and the causes may be accidental; thus, the formation of a membrane that happens to be developed near the point where the tubes communicate with the cavity of the womb, in consequence of an attack of inflammation; a preceding wound; an operation—as the Cæsarian operation, for example; a blow on the hypogastrium, suffice to disclose the nature of the accidental deformity in question.

The most common kind of atresia is that that takes place near the insertion into the womb; it is also, sometimes, observed near the ovaries, to which they are found, in some samples, intimately united.

Both the total obturation and obliteration being beyond the resources of the art, and being not ascertainable until after death, we here close our observations upon the subject, being satisfied with merely mentioning the fact of their existence.

## OF ABSENCE OF THE VAGINA—AND OF CASES IN WHICH THE VAGINA OPENS INTO THE RECTUM OR BLADDER.

Both Morgagni* and Dupuytren† met with women in whom the vagina was only of one-third its usual diameter and length. Engel‡ and Boyer§ found the vagina wholly wanting, and the urethra and bladder in immediate contact with the rectum. Individuals affected with these anomalous forms may, at the same time, be wholly unprovided with the uterus,‖ or, if it does exist, it may be small, ill formed, and unfit for the office of menstruation. Yet, even under such circumstances, the womb has been found quite natural as to its conformation, but it often, in that case, communicates externally by an unusual aperture, and opens by a sort of unnatural vagina into the bladder,¶ or into the urethra,** or the rectum,†† or even opens on the anterior surface of the abdomen.‡‡

These unnatural openings of the vagina, which are of exceedingly rare occurrence, almost always coincide with an obturation of the anterior part of the canal.

As these deformities do not compromise the existence nor even the health of the subjects of them, they remain unknown until the age of puberty; that is to say, until the menstrual fluid, escaping per anum, or by the meatus urinarius makes manifest the unnatural disposition of the parts.

If, in the case of a total absence of the uterus, the mucous membrane of the bladder becomes the seat of a sanguine evacuation, vicarious of the menses, it would not be easy to ascertain that the blood is furnished by the bladder and not by the womb itself, whose absence it would be then a difficult matter to pronounce upon. Inasmuch, however, as all these anomalous conditions are beyond the reach of the resources of the art, we shall close our observations upon them at this point.

[I subjoin an interesting letter, that I have received from Professor Mütter, and which needs no comment.

October 4, 1844.

"In compliance with your request, I send a brief notice of the case of "Imperforate Anus," of which you spoke the other day. About the last of April, 1844, I was requested by Dr. Jewell to visit, in consultation, the female infant (two weeks old) of one of his patients. On examination, the following condition of things was discovered:—The rectum ter-

* De Sedibus et Causis Morb., epist. 46.

† Répert. Anat. Pathol., t. v. p. 90.

‡ De Utero Defic. apud Schlegel, t. i. p. 259. Mem. of Berlin, 1774. Jour. des Savants, 1777.

§ Traité des Mal. Chirurg., t. x. p. 422.

‖ Morgag. loc. cit. epist., 11, 12. Dupuytren, loc. cit. Boyer, loc. cit. p. 423. t. x. Caillot, Mem. de la Soc. Med. d'Emulation, t. ii. 470.

¶ Boyer, loc. cit. p. 408.

** Madame Boivin and M. Dugès, Traité des Mal. de l'Uterus, t. i. p. 273.

†† Barbaut Cours d'Accouch., p. 59. Orfila, Med. Légale, t. i. p. 150.

‡‡ Morgagni, loc. cit. epist. 67. p. 7. Dr. Waille cites from Huxmann, (Opusc. Phys. Medic, t. iii, p. 3,) the case of a female, 23 years of age, whose meatus urina-

minated in a cul-de-sac, which extended to within three or four lines of the natural position of the orifice of the gut, which spot was occupied by dense cellular tissue and common integument, and no trace of the anal opening could be distinguished. We were told that the child was in the habit of passing its fæces through the *vagina*, and that each evacuation was attended with violent efforts, while the fæcal matter was moulded into small threads. Separating the labia, an opening about the size of a small duck-shot was discovered just within the fourchette, and above it, a well-formed hymen. Through this opening, a probe was readily passed into the rectum, and also through the hymen into the vagina, and both canals appeared perfectly normal, with the exception, of course, of the defect already ascribed. The indication was obvious, and I at once proposed the following operation: With the view of establishing a proper channel for the fæces, and, at the same time, dispose the orifice between the rectum and vagina to contract and thus heal. Passing a small grooved director from the vagina into the rectum, I forced out the tissues forming its lower extremity, and then thrust a trocar down to the director and directly through the spot usually occupied by the natural orifice of the intestine. Withdrawing both instruments, I next, with a probe-pointed bistoury, enlarged the opening made by the trocar, and, as soon as this was accomplished, the child passed an immense quantity of fæcal matter, apparently with much relief. A sponge-tent was then introduced into the rectum, and the nurse instructed as to its objects and use.

"Being on the eve of sailing for Europe, I did not see the child again, but suggested the continued use of the sponge-tent, until the opening made had lost all disposition to contraction; and, after this, if the orifice in the vagina did not heal of its own accord, in consequence of the natural channel for the fæces being established, that it should be touched occasionally with the argent. nitrat.

"I did not deem this a case in which the operation of Amussat was advisable, nor was it one that indicated *excision* of the tissues occupying the position of the anal orifice, nor could any operation upon the fistulous opening between the rectum and vagina be with propriety proposed. I preferred the *trocar* to a *sharp-pointed bistoury*, for performing the operation, for the simple reason that wounds made with the former instrument are much less prone to heal by the first intention than when the latter is employed; and

rius opened upon the middle of the abdomen, a little below the navel, by two distinct orifices, from which the urine was constantly escaping guttatim. A little lower down the orifice of the vagina was seen. Still lower down was seen a transverse orifice, scarcely admitting the introduction of the little finger, which was separated from the vagina by a thick membrane, and communicating with the rectum, whose termination was quite natural as to its situation. This woman, whose menses were perfectly regular, had married a robust sailor, by whom she had a child. The surgeon, Bonnet, who had charge of her in the labour, was unable to deliver her until he had made an incision into the membrane that separated the vagina from the abnormal anus. Both the child and its mother were saved.

as it was one object of course to prevent the close of the gut again, an event by no means uncommon, when a simple conical incision is made with a bistoury, I adopted the plan of operating described. I have not seen the child since my return, but understand from Dr. Jewell that there is some contraction of the orifice, and that, in all probability, it will be necessary again to divide its margins."—M.]

## ABSENCE OF THE WOMB AND MEANS BY WHICH IT CAN BE ASCERTAINED.

The womb may be absent coincidently with absence of the vagina, as in the instances reported by Engel,* Morgagni,† Baudelocque,‡ Dupuytren,§ Boyer,‖ and Caillot;¶ the absence of the uterus may also consist with a perfectly natural appearance of the external genitalia: Colombus,** Lieutaud,†† and other authors have noticed such cases of uterine anomaly.

For the purpose of ascertaining that the uterus is absent, or that it exists only in a rudimental state, several authors, and among others we may mention Plenck,‡‡ Morgagni,§§ and Foderé,‖‖ have pointed out the deficiency of the breasts and of the menses, and the obturation of the vagina at its superior extremity; but Metzger¶¶ very properly remarks that these signs, which are very far from being always present in the cases, afford only presumptive evidence, which is not sufficient for the establishment of a positive diagnosis. In fact the normal development of the external genital organs and their appendages may the more readily coincide with the absence of the rudimental state of the womb, inasmuch as it often happens as observed by Engel*** and Dupuytren††† that the development of the ovaria is quite complete in these cases; and these organs which are in the female what the testes are in the male, especially constitute the *sex* of the woman. Besides, Engel, Dupuytren and Professor Stoltz have found the womb absent in women, or in a rudimental condition, when the breasts were perfectly well formed; we have, ourselves seen a woman, in good health, and the mother of a child, although she had never been regular; cases of the same nature have fallen under the notice of Zacchias,‡‡‡ Foderé§§§ and several other medico-legal writers. Indeed, the obturation of the superior extremity of the vagina is not to be regarded

* De Utero Deficiente apud Schlegel, t. i. p. 239.
† Lettre 46, n. 11 and 12.
‡ Art. des Accouch. 3d edit. t. i. chap. 3. p. 168.
§ Repertoire d'Anat. Pathol. t. v. p. 99.
‖ Traité des Malad. Chirurg., t. x. p. 423.
¶ Mem. de la Soc. Med. d'Emulation, t. ii. p. 470.
** De re Anatomica, lib. xv. p. 495.
†† Histoire Anat. Med., t. ii. p. 343.
‡‡ Element. Med. Chirurg. Forensis, i. p. 3.
§§ Morgagni, Lettre 46, No. 13 and 20.
‖‖ Foderé, Med. Légale, 2d edit. t. i. p. 393.
¶¶ Principes de Med. Legale, traduit de l'Allemand par le Docteur J. J. Ballard, p. 278.
*** De Utero Deficiente, t. i. p. 239.
††† Repertoire d'Anat. Pathol., t. v. p. 99.
‡‡‡ Quæstiones Med. Leg., lib. iii. tit. i. quæst. 2.
§§§ Med. Legale, t. i. p. 395, 2d edit.

as a sign more to be depended on than the others above mentioned, since Haller,* Morgagni,† and Nicolon‡ have spoken of women possessing the womb itself though deprived of the vagina.

The best means of making the diagnosis consists in introducing a finger into the rectum and a sound into the bladder, which should be directed so as to turn the convex part of the instrument towards the bowel. By making pressure in this way upon the fundus of the bladder, it would be an easy matter to determine whether any intermediate body could be found between the bladder and the intestine; and if any one should be found, whether it presented the character of the well-formed womb or not. Professor Stoltz recommends, especially in lean women, that to the above mode of exploration, we should conjoin that of palpation above the pubis. This should be done so as to make the fingers pressing down the hypogaster, meet the fingers of the other hand introduced into the vagina. It must be confessed, however, that good modes of exploration are not in every case practicable, and that where they can be used, they may still, in some instances, leave the physician in a state of doubt as to the exact degree of the uterine development.

[The remark made in a preceding paragraph, by the author, as to the woman who was healthy, and a mother, although she had never been regular, is, I fear, calculated to mislead in an important step. I mean the marriage of persons who have never been the subjects of menstruation. Notwithstanding the case in question, I should esteem it a duty to recommend that marriage should be postponed until after the eruption of the menses; or at least until a competent inquiry should be made as to the fitness of the subject to enter into the marriage contract. The following case is sufficient to confirm this opinion, and I cite it the more willingly as showing not only that coincidently with absence of the womb, there may be well-formed mammæ and external genitalia, but the most perfect condition of the erotic principle. I cite the case from the Philad. *Prac. of Med.*, second edit., p. 67. Mrs. —— aged twenty-two and a half years, was married to her present husband more than two years ago. She is of middling stature, of a fair complexion, and presents all the exterior appearances of a person in perfect health. She is not fat, but has a certain embonpoint, a good figure, and a very feminine and most agreeable expression of countenance. She is, indeed, a handsome woman. She has never menstruated; nor has she suffered pain or any severe attack of disease; says that, as she did not menstruate at the proper period, medical advice was sought, and followed in the treatment of the case. That treatment proved unsuccessful, and she was *married*, with the expectation (of her friends) that the marriage would be followed by the eruption of the catamenia. The mammæ were, at the period of the marriage, well developed, and the pudendum amply supplied with hair; indeed, all the phenomena of

* Disp. Anatom. ab Hallero, collect. t. v. p. 327.
† Morgagni, Lettre 47, p. 256.
‡ Thèses de la Faculté de Strasbourg, année 1808.

a perfect development of the sexual system were present except the menstrual office.

The husband found, however, that some unknown cause acted as an impediment to the congress, and after more than two years of concealment, he consulted me upon the subject.

An opportunity being allowed to me of making a full investigation in the presence of her mother, I found the external organs perfectly formed; the mons large; the labia and nymphæ as well as the clitoris perfect, and the os magnum of a natural appearance; but the vagina was a mere cul-de-sac, not more than two inches, and probably less than that, in length. Upon pressing the point of the finger against the bottom of the cul-de-sac, it seemed to have no connection with any part above it.

I requested the lady to lie upon her back, and introducing an index finger as far as possible into the rectum, I explored with it the excavation of the pelvis, in order to discover any tumour, or any organ that might be contained within the cavity; but as all the tissues were ductile and very yielding, I began to suspect that there might be no womb at all in the case. Therefore, laying the fingers of the left hand upon the lowest part of the hypogaster, and pressing them firmly towards the finger that was used in exploring the internal parts, I found that they could be brought so near to each other as to make it perfectly clear that there was no womb in the case, or I must have felt it, so near was the approximation of the finger of the right to those of the left hand. Having, by the most careful exploration, in this manner, discovered the unfortunate state of the young lady, I felt obliged, in a conscientious discharge of duty, to tell her the whole truth, which I did in the best way I could; and yet, as may be readily supposed, the knowledge of her situation was accompanied with all the appearance of that violent distress and agitation that might naturally flow from such unhappy circumstances.

The aphrodisiac sense in this lady is *very strong*, which might well be the case where the ovaria are fully developed, even though the uterus had never been evolved in her constitution.

I was deeply impressed myself with the melancholy fate of two estimable persons who would never have placed themselves in so unhappy a condition, if, by a proper exploration before the marriage, the real state of things could have been discovered. The case serves to show how improper it is to permit the rites of marriage to be solemnized for persons who do not possess all the attributes properly belonging to the sexes. I do not contend that every case of failure to menstruate at the proper time is indicative of the necessity for exploration by the touch: but I think that no case of extraordinary protraction of an emansio mensium, and especially one where any question of courtship or marriage is likely to arise, should be allowed to go on without the acquirement by the medical adviser of a true and perfect knowledge of the facts as to the organization of the parts.—M.]

# SECOND SECTION.

## CHAPTER VI.

### LESIONS OF SITUATION.

Of displacements and deviations of the genito-urinary organs in the female.

The womb, in its natural state, being but loosely supported within the pelvis by means of its ligaments, is liable to a variety of displacements and deviations which affect its relations with the other portions of the genital apparatus, or with the viscera contained in the cavity of the abdomen.

Most of the lesions of situation that occur to the female genito-urinary organs have been noticed since the remotest ages, for *Hippocrates*,* *Aristotle*,† *Aretæus*, *Aspasia*, *Soranus*, *Antillus* and *Oribasius* mention them in their works, some fragments ‡ of which have been communicated to our times by *Aetius*.

*Hippocrates*, who regarded a state of absolute celibacy as one of the principal causes of derangement of the catamenia, and, consequently, of engorgement of the womb, has said (and in that he differs from all modern authors), that women in the conjugal state, and in whom the womb does not continue always void, are less subject than virgins to uterine disorders: Ην γαρ ἰκμελεαι ωσιν αι μῆτραι απολαγνειησ καὶ κοιλΐα μὴ κενῶται οὐ ρηὶδὶωσ στρεφονταί. Τουτ' οὖν αἰτιον γίνεται ωστε αὐτὰσ ξυμμύειν οἰα μὴ λαγνευομένης της γυναικος (*Hipp. Op. de Naturâ Mulier.*) In this last respect the father of medicine was in error, for the displacement of the sexual organs are much more rare in virgins and sterile women than in those who are married and who have children.

Where the lesions of situation of the genitals are slight, they scarcely occasion inconvenience to the patient; but where they are considerable and permanent, they are the more worthy of attention, as likely to result in inconvenience or accidents, that are beyond the reach of medicine. Although too great a degree of mobility of the womb is attended with numerous bad effects, its immobility, if to a considerable degree, becomes also a disturbing cause, as to the surrounding parts, and may prevent the womb itself from fulfilling some of its appropriate functions, such as pregnancy and labour, which require considerable changes of its situation.

Among the lesions of position to be treated of in this section, we place—

1. Hysteroptosis or prolapsion of the womb.
2. Anteversion and retroversion.

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* De Naturâ Mulierum. † Historia Anomal., lib. vii. cap. 2.
‡ Aetius Tetrabib. iv. serm. 4. cap. 76 and 77.

3. Anteflexion and retroflexion.
4. Obliquity.
5. Inversion.
6. Elevation of the womb.
7. Immobility.
8. Various hernias of the womb.
9. Hernias of the ovaries.
10. Vaginal cystocele.
11. Vaginal enterocele.
12. Vulvar enterocele and cystocele.
13. Descent of the internal membrane of the vagina, and invagination.

## OF HYSTEROPTOSIS.

*Hysteroptosis*,* or falling of the womb, is the displacement of the viscus downwards; and it may be complete or incomplete.

In the former case the organ escapes entirely from the pelvis, and may be seen completely outside of the vulva; in the latter case, on the contrary, it projects more or less considerably into the vagina, but does not descend below the inferior strait.

Prolapsion of the womb may take place not only during pregnancy and after delivery, but also while the womb is non gravid, for it has been met with even in virgins.†

The disease in question, which M. Lisfranc correctly regards as being generally produced by engorgement of the womb, has been divided, by most of the writers on the subject, into three degrees or varieties, which we shall proceed to describe.

*In the first degree*, which is merely a depression or incipient prolapsion, the womb settles down into the middle of the vagina, which it enlarges in order to make a lodgment for itself therein. In this kind of displacement, which is but a slight affection, but that ought to be speedily attended to, the patients complain of dull pain in the loins and of a dragging sensation about the groins; they also complain of a sense of weight at the fundament, and a pressure that becomes more painful by long standing on the feet, or by too long a walk.

In the operation of Touching, the neck of the womb is soon felt, and the os tincæ is found to be resting upon the posterior wall of the vagina, which is thus completely obturated, and two-thirds of its upper portion are inverted like a finger of a glove turned partly inside out. In its new situation, the womb, as it follows the direction of the axis of the inferior strait, acquires a position totally different from that which it ordinarily assumes.

The unnatural tumour that projects from the entrance of the

* From the Greek ὑστέρα *uterus*, πτῶσις falling.

† Displacements of the womb in the virgin state are rarely met with, because of the small size and lightness of the organ, and probably, also, because of the constricted condition of the vagina and surrounding parts. Mauriceau, Saviard, Monro and De Graaf are the only authors who have reported cases of complete prolapsion of the womb in the virgin state.

vagina may be easily raised upwards by the finger, but it falls down again as soon as the support is withdrawn, unless the womb has contracted new adhesions with the vaginal parietes. The nature of the tumour is readily distinguished by the presence of the os tincæ and the neck of the uterus, whose circumference is surrounded by a sort of cushion composed of the vaginal walls. By placing one hand on the hypogastrium and touching with the index of the other, we are enabled, except when the person is very fat, which is not common in these cases, to perceive the void left in the upper part of the pelvis, by the descent of the womb; and in the same way we may discriminate between the prolapsion of the womb, and the elongation of the cervix, which are sometimes very considerable.

Most of the symptoms of prolapsus in the second stage are produced by the pressure of the womb upon the surrounding parts, especially the bladder and rectum, or by the stretching of the uterine ligaments. This is put beyond question by the fact that all the symptoms are diminished by rest, and particularly by rest in the horizontal posture, whereas their violence is redoubled by standing and walking. Where the displacement has been gradually produced, the symptoms attending it are less severe than where it takes place suddenly; where it is suddenly produced, it is frequently accompanied with long, protracted faintings, violent floodings, severe pain in the pelvis, vomiting, and sometimes even an intense attack of peritonitis. But, on the contrary, where the displacement takes place slowly, these phenomena are rarely observed, because the organs, having slowly abandoned their natural situation, become, in a measure, accustomed to the unnatural situation they have assumed.

[Seeing that the womb is attached to the rectum solely by the recto-vaginal septum, and to the bladder by the vesico and urethro-vaginal septum, it is manifest that these two septa furnish the sole means of its vertical support; while it is true that the parts themselves depend upon other attachments for their own firmness and ability to sustain the womb. I should think that no one would attribute to the ligamenta lata any other mechanical function in the case than that of acting as a stay, on the right and the left sides, to the womb—a stay by means of which it is kept in place while the woman lies on the right side or on the left side. The ligamenta rotunda, which, coming off from the angles of the womb, pass out through the abdominal canals to be inserted on the sides of the pudendum, must be regarded also as merely a stay, one for each side, by whose agency it is that the womb is not overset or retroverted every time the bladder becomes filled with urine. These ligamenta rotunda do not sustain the womb vertically at all, but act merely to restrain its tendency to retroflexion and retroversion.

Such being the anatomical facts in the case, why is it that falling of the womb is so common a malady, and on what does the disposition to that malady essentially depend?

It has long since seemed to me, that the writers upon prolapsion have lost sight of one most important element in the pathology of the case, and

that is, the state of the muscles within the pelvis. They ought to have observed and remarked upon this important physiological law, viz: that the diaphragm has an antagonist force in the floor of the pelvis, which is partly muscular, and that where that muscular floor retains, together with the other tissues of the perineum, its full power and energy, there can be no prolapsion of the womb. The repeated distensions and dilatations to which the floor of the pelvis is subjected in labour, cannot but tend to debilitate it and overcome its power of resisting the antagonization of the diaphragm and abdominal muscles, and as the parts that sustain the womb depend for their own support on the firmness of the tissues composing the pelvic floor, it is clear that the womb may go down with them and it. But let it be observed that the pelvic floor itself is dependent, not merely upon its textural contractility, but on the muscular power of the levator ani muscles—muscles which relax in labour, and in defecation, by a spontaneous power of relaxation, in order to admit of the descent and protrusion of the pelvic floor in question, and which is restored to its proper level, and drawn upwards, and kept there by the sole power of the levator muscles. Hence it is, I think, clear, both by reasoning and by observing clinically the facts in the case, that the weakness and loss of power of the levator muscles have much to do with the pathology of prolapsus uteri.

It will not, I suppose, have escaped the observation of all persons of experience, that in bad cases of prolapsus, the perineum is thin, feeble in its tension, and that the whole perineum is at a lower level than in those who do not labour under prolapsus.

It is essential to remark that weakness and prolapsion of the womb are apt to follow bad labours, and to be coincident with the signs of general debility of the muscular apparatus of the whole body. It is not, indeed, met with, except very rarely, in the strong, active, muscular subject, and that even in these subjects, the prolapsion is rather a state of immobility or fixedness of the womb at a low level, than a real prolapsus.

I fully agree with M. Colombat in his general statement and rationale of the symptoms of our case, but I would call attention to the relations existing betwixt the sacral and hypogastric plexuses of nerves and the renal and solar plexuses, and indeed as extending to the whole splanchnic system, for an explanation of the extraordinary and complicated sympathies that are awakened in prolapsion of the uterus. M. Colombat has pointed out, as one of the complications of prolapsus, the induction of intense peritonitis. I have never met with such a complication in a long-continued and very extensive range of practice; but I have met with many cases simulating peritonitis so closely as to render the diagnosis very difficult indeed. I refer to the cases described in the *Philad. Pract.*, at p. 141, and seq. The same kind of observations have been made by W. Maunsell, in his *Dublin Practice of Midwifery*, and, so far as I know, by no other authors. I shall reserve for a future page the observations I have to make on the treatment of prolapsus uteri.—M.]

As the phenomena that accompany falling of the womb in the second degree are not always the same, and may vary according as the distension of the uterine ligaments and the pressure of the womb upon the bladder and rectum are greater or less, we shall point out the symptoms most commonly met with.

The patient cannot, without difficulty, continue either standing or sitting, and finds comfort only in the horizontal position. She feels pain in the groins, the loins and the hypogastric region, with a sense of weight about the fundament, the perineum and vulva; and, lastly, she has a distinct sense of the presence of a large tumour, which, upon the slightest effort, seems as if it would escape at the vulva. Like women in labour, she is liable to inappetency, nausea, and even vomiting, which all proceed from the sympathetic connection of the stomach with the womb. To these symptoms must be added those of constipation, of dysuria, and even of ischuria, arising from the pressure of the tumour upon the bladder and rectum, a pressure that is greater and greater as the tumour descends lower and lower into the vagina. The irritation of the womb, produced by this unnatural situation, and probably, also, the obstruction thence arising as to its circulation, often determine an attack of inflammation, accompanied by intense redness, and greater or less swelling of the uterus.

Incomplete descent of the womb frequently presents to the medical attendant a degree of obscurity that it is quite impossible to dissipate, except by means of the *Touch*, properly performed, and in the manner to be described. In the first place, the woman must be examined in a standing posture, because the prolapsion is then greater than it is in the horizontal position, in which it may even wholly disappear. If the patient is a late riser, the operation should be deferred for several hours, and then it should not be done until after the bowels have been evacuated, as well as the bladder, for the womb is always found to be lower when these parts are distended with their contents. By attending to all these points, and recollecting what we shall further add on the subject, we may very readily ascertain the existence of an incomplete descent, and distinguish between it and the other affections with which it is often confounded.

Among the disorders that give rise to these mistakes in diagnosis, may be mentioned elongation of the cervix uteri, fungous tumours of the cervix, and particularly polypus of the womb, passing into the vagina through the mouth of the womb. The records of the science show cases in which the surgeon, supposing himself about to extirpate a polypus proceeding from the cavity, or growing from the neck of the womb, has completely extirpated the womb itself, which was affected with prolapsus in the second stage.

Such a mistake will be avoided by keeping in mind this principle, that tumours composed of the procident uterus are harder and more sensitive than polypus, and, besides, that the os tincæ is always to be found at the inferior extremity of the mass, and which cannot be confounded with any accidental opening that might happen to exist upon the surface of a polypus, inasmuch as a probe could not be

made to penetrate so deeply into it as into the uterine cavity. Furthermore, the tumour formed by a polypus is always largest at its lower extremity, while that constituted by a prolapsed womb is a cone with the base uppermost, and is consequently smallest below.

Finally, in order to dispel every remaining doubt from the mind of the practitioner, he should remember that polypus of the womb is irreducible, and that any attempt to reduce it causes insufferable pain. Prolapsus uteri in the second degree is, on the contrary, easily reducible, while its reduction gives great relief to the patient.

[I beg leave to caution the inexperienced reader against confiding implicitly in this diagnostic statement. I have met with several samples of polypus uteri, that were occasionally within reach, and on other occasions retired beyond the reach of the index. It is quite reasonable to suppose that a pediculated polypus attached to the fundus, should sometimes be forced partially through the os uteri under augmented muscular intolerance of its presence, and afterwards withdrawn into the cavity, on the cessation of the muscular spasm.—M.]

An incomplete descent of the womb does not prevent conception. We had charge of the case of an itinerant fish-woman, who became pregnant and was safely delivered, notwithstanding she had a prolapsus in which the tumour projected an inch beyond the labia. While she was lying down, the womb retreated as much as eighteen or twenty lines within the vagina. Impregnation might possibly take place even in a case of almost complete procidentia, but in such a case the coitus must take place directly within the uterus itself.

[This is a statement that I look upon as wholly incredible.—M.]

Choppart cites, on the authority of Marignes, the instance of a female, who had, from the age of fourteen, been troubled with a prolapsus that slowly increased. The husband of this girl had no children by her until, after a considerable length of time, he dilated the orifice of the womb, and consummated the act of generation in its very cavity. The pregnancy was in all respects natural, but at the time of her confinement, they were compelled, on account of the rigidity of the os uteri, to make two incisions into it on opposite sides; after which the child was born dead, and the mother recovered without difficulty.

[Such relations as the above require a stronger confirmation before they should be deemed credible. They are necessarily hypothetical as to the important steps of the doctrine.—M.]

Several authors, among whom I may mention Haller* (quoting Kalm,) Paul Portal† and Nauche,‡ have reported instances of prolapsus uteri occurring during pregnancy; Mauriceau,§ Paul Portal‖ and

* Disputat. Chirurg. Select. Haller, t. iii. p. 587.
† La Prat. des Accouch. Sout. d'un Grand Nombre, d'Observations. Observ. x.
‡ Malad. propres aux Femmes, t. i. p. 85.
§ Obs. sur la Grossesse et l'Accouch., Obs vi.
‖ Loc. citat. Observ. x.

Brodmann* have noticed cases in which incomplete and reducible hysteroptosis, after having disappeared in the first months of pregnancy, has returned towards the conclusion of it, and even during labour itself. In the cases by Garin† and Ducreux,‡ the prolapsus seems to have taken place without any antecedent falling of the womb, and at the very time of the parturient efforts. In some instances, the womb has remained until the end of the labour, partly within and partly outside of the pelvic cavity. Wagner§ and Choppart‖ each relate an instance of this kind. Finally, the prolapsion has, in some examples, been spontaneously reduced at the approach of labour; as in the cases published by Loder,¶ Saviard,** Portal†† and Choppart.

Whenever an incomplete hysteroptosis becomes complete, then all the symptoms caused by the compression of the bladder and rectum immediately diminish and the evacuation of urine, and by stool take place without any difficulty. However, while the symptoms partly disappear, they are succeeded by increased intensity of the symptoms resulting from the stretching and distension of the peritoneal ligaments, and by numerous other symptoms which we shall detail in speaking of complete falling, or procidentia of the womb.

In this third degree of hysteroptosis, the entire body of the womb has passed out beyond the vulva, and the whole organ, which is seen movable and suspended betwixt the woman's thighs, has dragged down in its fall not only the vagina that is inverted, but also the uterine appendages, the bladder, and a portion of the rectum.‡‡ The displacement of these organs soon forms a cul-de-sac filled with the convolutions of the small intestines giving rise to another tumour of greater or less magnitude, which prevents the reduction of the womb itself.

The distance to which the womb projects forth, is equal, in some samples, to 6, 8, or even 10 inches,§§ and the tumour is either strangulated, oval, or globose; but most commonly conoidal, and fills up the whole orifice of the vulva whose labia seem elongated by the presence of the foreign body which keeps them always disparted.

Whatsoever the form of the procident womb, the cervix uteri is always to be seen with its orifice very much contracted,‖‖ rounded or semilunar, and generally discharging a mucous substance, and even the mensual fluid, at the catamenial periods.

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* Ephem. decur. ii. an 3 p. 368.

† Journal de Med., t. iv. p. 165.

‡ Mem. de l'Acad. de Chirurg., t. viii. p. 493.

§ Biblioth. Med., t. xiii. p. 114.

‖ Traité des Mal. des Voies Urinaires, t. ii. p. 73.

¶ Jour. fur die Chirurgie, vii. p. 13.

** Mem. de l'Acad. de Chirurg., t. iii. et Observ. Chirurgicales.

†† Journal de Med. xlv.

‡‡ The autopsies and cases published by Kerckring (spicileg. Anat. contin observ. rariorum)—Boehmer, (in Disput. Chir. Haller, t. iii. 557)—Kalm, (ed. pag. 588)—Ruysch (Obs. Anat. viii)—*I. Cloquet*, (Theses de Concours, Paris, 1831,)—prove conclusively that the inverted vagina dragged down by the womb, contains, within the sort of cul-de-sac thus formed, a portion or the whole of the adjoining organs.

§§ Mauriceau, Saviard, Ruysch and Horn, give cases of complete prolapsus, in which the tumour descended to the middle of the thighs.

‖‖ Boehmer, Disp. Chir. Haller, t. iii. p. 558, says, Orificium uteri ita angustum, ut vix ac ne vix quidem, acu in cavtatem uteri peuetrare potuerimus.

It sometimes happens that the womb thus displaced, becomes affected with violent pain, and gives rise to copious hæmorrhage; the tumour that it constitutes from being always bathed with urine and irritated by the constant friction of the thighs and the dress, becomes inflamed, swollen, excoriated, and often, indeed, wholly or partially gangrenous. It is found, on other occasions, that the unreduced tumour becomes a chronic disease; and the internal membrane of the vagina that lines it, from being exposed to continual friction and to the air, assumes the appearance of the skin; so that the womb has been actually mistaken for the male organ; and the woman so situated, has been looked upon as an hermaphrodite. Saviard, whose inclinations led him to the collecting of the rarest and most interesting cases in his art, has handed down among his cases as arranged by Devaux, the history of a girl at Toulouse who passed for an hermaphrodite, and who was merely the subject of a complete procidentia uteri.* The celebrated surgeon of Charles IX., the ingenious Ambrose Paré, relates that a woman, in order to excite pity and procure a more abundant alms, had simulated a procidentia uteri by means of a bladder half filled with air and begrimed with blood which she adjusted by means of a sponge attached to it and introduced within the vagina.

The reason why prolapsus is so rare among virgins, and is indeed hardly met with, except among women who have borne children, and chiefly in such as have had repeated confinements is, that during pregnancy the ligaments of the womb become considerably stretched, and but slowly recover their natural condition subsequently to the lying-in. By reflecting upon this, and by also recollecting that the womb is much larger and heavier after a labour than it is in the non-gravid state, we may comprehend why displacements of the womb are so frequent, and so easy to be brought about, in the first days that follow the child-birth, especially in women who have been delivered whilst standing up, or who have risen too soon after their lying-in.

The *predisposing causes* of prolapsus uteri, are: Congenital capaciousness, or brevity of the vagina; a pelvis of excessive dimensions, either actually, or from the want of a proper embonpoint; reiterated pregnancy; engorgement of the uterus; scirrhous, fibrous or steatomatous tumours formed upon the womb, or upon the mons veneris, as in the case mentioned by Wagner;† the abusus coitûs, chronic inflammation, and the natural or the accidental relaxation of the peritoneal expansions, by which the womb is attached to the pel-

* This young fine girl named *Marguerite Malaure*, had been condemned by the magistrates of Toulouse to wear the male dress; her sex was restored to her by Saviard, who reduced the tumour that had given rise to this strange mistake; after which she was enabled to dress herself in a female dress which she had been forbidden to wear. It is probable that this complete procidence of the womb was congenital, for she said *she had never known herself to be different*. *Dr. Duval* made a mistake of the same sort, but still less excusable, for the woman who gave rise to it had prolapsus only in the second degree.

† Biblioth. Med., t. xiii. p. 114. In *Wagner's case*, the womb had been depressed by an enormous tumour on the mons veneris, and had yielded to an impulse communicated from above downwards, of sufficient power to cause the uterus to yield, but insufficient to sink the tumour along with it into the cavity of the pelvis.

vis, to the rectum and to the bladder. Finally, a chronic and profuse leucorrhœa, a lymphatic temperament, living in a low, damp situation, and especially a sudden or habitual state of emaciation; these predispose to prolapsus of the womb.

The *occasional causes* are not less numerous. Thus, these disorders are most common among the inferior classes of the population, in which the women are obliged to be more upon their feet, walk more, and use violent exercise shortly after their confinement. Falls upon the feet, upon the seat or on the hypogastrium; pressure on the lower belly by tight dresses or lacing; violent efforts in raising of burthens, or in carrying them for a long time resting against the abdomen, as is the case with the itinerant saleswomen of Paris; the jolting of a carriage; in a word, all motions requiring frequent and powerful contractions of the diaphragm and abdominal muscles; such as straining at stool or in vomiting, in passing the urine, in coughing, sneezing, singing, dancing, wrestling, leaping, riding on horseback; any of these may be occasional causes of the affection under discussion.

Abortion; violent labour pains, particularly in labours where the woman stands on her feet; traction and imprudent manœuvres in the extraction of the child, or placenta; the hurry that women are in to sit up and walk about soon after parturition, and before the uterine ligaments have had time to recover their firmness; all these causes, indeed, give rise to the various degrees of prolapsus uteri.

When left to nature alone, a falling of the womb may soon become quite incurable, for its tendency always is to increase, and the chances of success are always more unfavourable as the case is of longer date, the descent greater, and the concomitant circumstances more disadvantageous. The sequelæ of this disorder, even when complete, might, perhaps, never compromise the life of the patient, were it not for the complications that are often the effects as well as the causes of the principal lesion; complications that always aggravate the prognosis, which of itself is bad enough. Thus, a descent and relaxation of the vagina; a deformity of the pelvis; a dropsy; a state of marasmus; the presence of a scirrhus upon the cervix uteri, or of polypus in the cavity of the womb, or of a fœtus in utero; a calculus in the bladder, are so many complications changing the indications of treatment, always to the disadvantage of the patient, and liable to become fatal, not only by preventing the reduction of the tumour, but also by necessitating certain operations and certain peculiar cares that will soon require our attention.

In those unfortunate cases that are beyond the resources of medicine, and where the physician is compelled to be a sad and impotent spectator merely, there is nothing to be done beyond the suggestion of measures of palliation, and feeble remedies, which, for the most part, give but little relief.

The *treatment of hysteroptosis* offers two indications: the first is to replace the organ in its natural position; and the second is to prevent the recurrence of the displacement.

For the most part, it is an easy matter to restore the womb to its

natural position, where the prolapsus is in the first or second stage, and unaccompanied with any complication. All that is necessary for this purpose is to make the patient lie upon her back so as to have the pelvis somewhat higher than the head, while the abdominal muscles are allowed to be as much relaxed as possible. The womb will then take its natural position, and the reduction be so much the more readily effected, if, by the introduction of two of the fingers into the vagina, we gently push the womb towards its proper place in the cavity of the pelvis.

After the reduction, provided no symptoms of inflammation of the organ are left, it is frequently found useful to prescribe, with a view to the radical cure, the use of cold astringent injections, to be repeated twice or thrice a day. They may consist of liquor plumbi acetas, or a solution of one or two drachms of alum in a pint of water or of decoction of cinchona, or of the roots of the comfrey, bistort, tormentil, pomegranate rind, or any other astringent substance. River bathing in summer, and sulphurous douches and injections may be employed at a later period, as means for consolidating the cure.

Generally speaking, as the simple depression of the womb or prolapsus in the first stage produces but slight inconvenience, it happens that the natural but unreasonable delicacy of the female makes her fearful of confiding her complaint to the medical attendant, preferring to leave in the hands of nature the care of a malady of whose evil tendencies she is ignorant. But as the mischief has a tendency to increase and extend, the malady becomes aggravated, the sufferings of the patient increase daily, and a simple depression soon becomes a positive falling, and finally a complete procidentia.

There are women who conceal this disgusting and painful infirmity for years together, and even attain to an advanced age without any very serious symptoms. But there are others in whom the womb cannot be reduced, either in consequence of its having formed adhesions, or from its containing within its cavity a fœtus of several months, or from other insurmountable obstacles, or such at least as are connected with circumstances that may lead to the sudden death of the patient. We shall shortly point out the course to be taken in those rare and distressing cases in which all attempts at reduction prove to be vain.

There is always much greater difficulty in effecting the reduction of a complete hysteroptosis than of one in the first or second stage.

Where the womb has escaped completely from the vulva, it is proper, before proceeding to the reposition, that the patient should empty the bladder and rectum, either spontaneously or by means of the catheter, and the common enema. Provided the uterine tumour, as frequently happens, should be found painful and sore from the action of the air, the urine, or the friction of the clothing, emollient poultices ought to be applied to it, and the swelling should be reduced by general remedies, such as fomentations, baths, venesection, dieting, diluent drinks, a mild regimen, laxatives, &c. Such measures as these are particularly indicated in chronic cases of falling of the womb.

After the parts have been brought into a condition more favourable for the reposition, the woman should be directed to lie down in a position more inclined even than that recommended in incomplete prolapsus: the surgeon, after having anointed his fingers as well as the tumour itself with cerate or oil, should seize it with his right hand, and, giving a few rotary movements, in a gentle manner, and then elevating and depressing it by turns, should press it backwards into the cavity of the pelvis, following the direction of the axis of the inferior strait, meanwhile using the fingers of the left hand at the labia to facilitate the return of the womb into the body.

As soon as the upper part of the womb, which is largest, has passed within the vulva, the rest of the tumour, being smaller, readily follows to take its natural position in the body.

Should the size of the tumour, augmented by being in a state of inflammation, by the thickening of its tissues, or by infiltration, seem, notwithstanding the measures above recommended, to be so great as to make its reduction appear too difficult, we ought to suspend our efforts, and wait, in order to try new measures, to have recourse to a prolonged rest in the horizontal posture, and to all the therapeutical aids calculated to combat the complications of the case. We should not again attempt the reduction until some improvement, some manifest diminution of the sensibility and size of the tumour should invite to the operation. In endeavouring to restore the womb to its natural situation, should we still meet with great difficulties, and have greater reason to dread the induction of an inflammation more dangerous than a permanent procidentia, it would be a duty to renounce all such attempts, and remain content with a treatment merely palliative.

A medical man ought not, however, lightly to renounce all hopes of reducing a hysteroptosis, no matter how severe nor of what old standing. Saviard succeeded in reducing Margaret Malaure's, which was congenital. Several other surgeons, as mentioned by Sabatier,* and among them Mauriceau, Saviard, Horn and Leblanc, were successful in the reduction of frighful cases of prolapsus, the size of which had been first reduced by means of prolonged rest, dieting, baths, bleeding, emollients, &c. Dr. Léveillé and Dr. Bobe—Moreau, (*Bull. de la Faculté de Med.*, 1815, No. 4,)—rendered prolapsus of long standing reducible by means of pressure with a bandage *en doloire*. However, let us remember the counsel already given, not to insist upon attempts to reposit when too many obstacles are met with. Improvident and ill-advised manœuvres have brought on fatal disease, such as acute peritonitis and metritis. (*Nouvell Bibliot. Med.*, deuxième année, tom. iv. p. 215.)

After having made use of the preliminary treatment above recommended, if reiterated attempts, vainly made, should render it evidently impossible to restore the womb to its place, we must rest

* Sabatier, in the Mem. de l'Acad. de Chir., t. iii. p. 375, says that "there is no case of procidentia of the womb that cannot be reposited, no matter how large it may be; but this talented practitioner admits that it is not always possible to keep it in place after reposition."

content with giving due support to the tumour by means of a proper suspensory, which should be anointed with cerate, in order to obviate the evil effects of the friction of the material.

As a means of more perfectly obviating this inconvenience, we have recommended and have made use of a bandage of oiled silk, doubled, the surface of which, being smooth, produces less friction than even the finest linen; and the material is desirable, since it may be cleansed several times a day, while its impermeability protects the womb from the painful excoriations which the constant contact of the urine tends to produce.

Should the procidentia take place at an advanced stage of pregnancy, the reduction of the womb ought, nevertheless, to be attempted, and may be easily effected at an early stage, particularly if the attempt be not long deferred. We have already advised that the bladder and rectum should be emptied before the institution of any attempts to reposit, and it ought not to be forgotten that the introduction of the catheter is not always an easy matter, from the distortion of parts produced by the descent. In some of the cases, the female catheter will not answer at all, and we must have recourse to the male catheters, using the instrument with the concavity towards the hypogastrium.

Where pregnancy is already in an advanced state, the case of long standing, and the reduction difficult, it would be the dictate of prudence to abandon all attempts that might prove hurtful either to the mother or child:* in such cases, it is sufficient to give proper support to the womb by means of such a suspensory as has been mentioned, and make the patient observe the horizontal position, in bed. When the pregnancy has reached its full term, the escape of the fœtus may be facilitated by gradually dilating the os uteri; and the placenta should be removed by the introduction of the hand into the womb, so as to take it, and not by pulling at the cord.

[I cannot avoid remarking upon this passage, that in the vast majority of cases of parturition, the placenta is expelled from the womb by the spontaneous contraction of the organ, and that no very slight motive should be allowed to operate on us as inducing us to force the womb for the delivery of the placenta. I think the attendant should wait a proper length of time for the spontaneous expulsion, as in a common healthful labour. When that time has elapsed, he may properly carry his hand into the womb in search of the after-birth.—M.]

After the birth of the child, the reposition may be the more easily effected, as the womb has been suddenly reduced in size, and its strong and reiterated contractions constringe its parietes.

Should the procidentia take place during the progress of a labour,

* Mauriceau (Obs. 67 and 95) reduced one at the fourth or fifth month; and Giroud likewise succeeded not more than ten days before the labour came on. (M. Dugès and Mad. Boivin.) M. Capuron (Mal. des Femmes, p. 301) has shown that the womb may be irreducible after the first months of gestation, and that the uneasiness arising from this irreducibility, may bring on abortion.

it would be equally dangerous as in the case above treated of, to attempt its reduction; but we should try to hasten the delivery of the child by dilating the mouth of the womb, and by sustaining the prolapsed organ. The extraction of the placenta ought to be done as before recommended, that is to say, by introducing the hand into the womb, and acting in the direction from the circumference to the centre. When the child is born, the reposition may be effected with little difficulty.

Before closing our remarks upon prolapsus in pregnant women, we ought to state that it almost always occasions an attack of suppression of urine, that may be relieved by passing up a finger behind the symphysis pubis, and pushing back the womb so as to take off the pressure from the neck of the bladder and the urethra. It will be well to point out this mode of relief to patients so situated: they can make use of it until the time arrives when the womb shall have acquired magnitude sufficient to keep it above the brim, which generally happens about the fourth or fifth month.

At whatsoever period it may be that the reduction is effected, there always remains an indication that it is essentially necessary to fulfil—that of preventing the escape of the organ, by the use of the tampon and pessaries, of different shapes, dimensions and materials.

These supporting instruments are not absolutely indispensable where the affection is recent and has suddenly happened, but they are for the most part so, where the woman is of large size and the disorder of an ancient date.

## OF PESSARIES AND THEIR VARIETIES.

The term pessary* is given to an instrument designed to be placed within the vagina, either to maintain the reduction of a hernia in the part, or to prevent the falling or inversion of the organ itself, or what is most commonly the case, to prevent the prolapsion and deviation of the womb itself.

The use of pessaries, in the treatment of displacements of the genito-urinary organs, is of the highest antiquity; the Egyptians, the Greeks, the Romans, the Arabians, and all the ancient physicians, without excepting Hippocrates himself, made much greater use of them than the moderns, because they employed them not only as mechanical and chirurgical measures, but as topical medicaments, which they varied according to the supposed nature of the affection they wished to combat; thus, they prepared pessaries which were emollient, astringent, tonic, emmenagogue, anti-hæmorrhagic, &c., according to the indication to be fulfilled.

The employment of the pessary as a topical medicament has, for a long time past, fallen almost wholly into neglect, and it is now used solely as a remedy for the displacements and deviations of the genito-urinary organs of the female as before stated.

The ancients composed their pessaries of various substances, such as wool, the leaves of plants, lint or rolled linen, to which they at-

* From πεσσος, derived from the verb πεσσειν, to soften, to retain, to keep in place.

tached a string for the purpose of extracting them when necessary. At a later age they made use of gums, resins or wax, which were softened so as to give them the proper shape. The Arabians, among whom we may mention *Albucasis*,* in order to support the womb, made use of a small sheep's bladder filled with air, or with a substance called *coto* (*impleatur coto*) which was left within the vagina until the cure was completed. Professor Osiander, in his *Compendium of Midwifery*, recommends, in imitation of the Arabians and of Apsyrtes, the introduction into the vagina of a small sac or bag made of fine linen, to be first filled with tan, and then soaked in rough wine.

Other authors have prescribed the introduction within the vagina of a fine sponge of a cylindrical or oval shape, well smeared with some unguent, and supported by a bandage. Pessaries are also constructed of more solid materials of various sorts; such as light kinds of wood, as linden or cork; of hard woods, such as the service tree and the box; animal substances, as horn, ivory, wax or leather; and lastly, metals, particularly gold, silver, copper, lead and tin.

As these substances used alone did not fulfil all the desirable purposes, they have been combined, in order to improve their qualities. Cork, for example,† possessed the advantage of being light, elastic and firm, but it was too porous, and readily imbibed the mucus and other fluids of the parts in contact with them. This was so much the greater an inconvenience, since the fluid retained in the interstices of the cork rapidly underwent putrefaction, gave rise to a disgusting odour, and to a variety of symptoms more or less to be deprecated. Roussel (*De Partû Cæsareo*) relates that a woman who was under his care for an inflammation of the bladder and womb, was not relieved of her pains and other morbid symptoms until after the discharge from her vagina of several bits of rotten cork, portions of an old pessary that had been adjusted eighteen years before. Sabatier (*Mem. de l'Acad. de Chir.*, t. iii.) says that M. Grammont communicated to the academy the case of a lady under treatment for putrid fever and inflammation of the bowels produced by a cork pessary that had rotted in the vagina. Delamotte (*Mem. de l'Acad. de Chir.*, t. ii.) also repeats that in order to relieve the violent pain of a lady under his care, he was compelled to extract a cork pessary that she had worn for three years, and in doing so made use of instruments which required all his strength in making the extraction. He adds that he was ignorant of the cause of the difficulty until he had extracted the pessary, which was petrified, "so that the pessary resembled a very large urinary calculus."

With a view to prevent the imbibition of fluids, the cork pessary was covered with a thick coating of virgin wax, which certainly lessened the objections to the material and preserved it for a considerable time from change. With the same end in view the linden wood is coated with varnish of different sorts.

* Albucasis, lib. iii. cap. xix. Quando frangitur vulva mulieris.

† It was especially in Levret's time that the cork pessary was put in vogue. That celebrated physician not only bestowed upon them the highest commendation, and preferred them to all other kinds, but he also at great length described the mode of preparing them in a memoir published in the XXXIV vol., p. 428, of the Ancien Journal de Medecine.

Ivory and the hard woods are too heavy, and injure the parts by their hardness; besides, they are not now made use of except by some of the English practitioners, and for the construction of certain cup pessaries *en bilboquet;* Haller published a case, which was that of a lady who wore a globe pessary made of wood, which was employed on account of an incontinence of urine from paralysis of the vesical sphincter. In this case the pessary produced ulceration of the recto-vaginal septum, so that, after the extraction of the instrument, which was got away by means of forceps, her fæces escaped in part through the vagina. (*Collect. Discuss. Med. Chirurg.*, t. iii. p. 595,) *De incontinentia urinæ globulis ligneis curandâ.*

Wax and resin have been abandoned as being too brittle, and metals because they are too hard, too heavy, and some of them too costly; besides, they corrode and become oxydized, particularly near the soldering, which may give rise to bad consequences. Morand (*Opuscules de Chirurgie*, t. ii.) informs us that having introduced a silver gilt pessary, he was some time afterwards recalled to the lady who was suffering great inconvenience, severe pains in the pelvis and an excessively fœtid discharge. She attributed her distress to the pessary, and when Morand removed it, he found it corroded, pierced with several holes, and, moreover, covered with calculous deposit.

It now remains for us to speak of the pessaries most in use, that is to say, of those that are so erroneously called gum-elastic pessaries, for they are really composed of a coat of linen, silk or cotton, and sometimes of a strong felt covered with several layers of drying linseed oil. These are preferable to those before mentioned, although they are not free from the objection of a liability to be decomposed. It may also be objected that they are not very elastic, and that they become readily and frequently covered with a calcareous deposit, which excites violent inflammation of the womb and vagina, ending in ulceration of those parts, with very fœtid discharges.

Dr. Rognetta, in his excellent Memoir on Vaginal Cystocele, published in the *Revue Médicale*, 1822, reports the following case at La Charité, service of Professor Roux. A country-woman entered the hospital to be treated for a disease, as she supposed, of the womb. She was examined by the distinguished surgeon above mentioned, who discovered a foreign body in the vagina. The patient stated that it was a pessary that she had not touched for many years. M. Roux was obliged to make use of strong forceps in the extraction of the instrument, which gave her severe pain. After the completion of the operation, the pessary, which was as hard as a stone, and encrusted with calcareous matter, was found to be of the sort called gum-elastic, and that are most generally made use of notwithstanding their objectionable features. When upon the subject of the accidents that may follow the use of the pessary in general, we shall relate another case in some respects still more curious than Mr. Roux's.

Finally, we come to the consideration of the real gum elastic pessary, pure caoutchouc, in its natural state. This material, by its lightness, its impermeability, and its elasticity, appears to us to combine,

in the highest degree, all the properties that are to be desired in the construction of a good pessary.

We are indebted to Madame Rondet, sage-femme, of Paris, for the employment of caoutchouc in the construction of pessaries. Those of her manufacture are supported within by a very thin steel spring, surrounded with hair. We have seen some of them, however, that are merely inflated with air, and have no spring or hair within them.

Our friend and colleague, Dr. Rognetta, the author of some important remarks on different branches of the science, and particularly upon displacements of the genito-urinary organs of the female, has likewise prepared pure caoutchouc pessaries, but simply with gum-elastic bottles, such as are found in the trade. The only preparation that he subjects them to consists in turning in the top like the bottom of a bottle—then he cuts out a piece from the centre of the depression with a punch. It is now a cup with double walls, and the throat of the bottle, which is like the stem of the pessary *en bilboquet*, receives a metallic nut for the reception of a screw, to which are attached three braces, designed to keep the instrument in sitû by means of a belt, which is itself supported by a pair of suspenders. The pessary is to be removed every night, after which the patient must use cold water injections, and be careful to wash the instrument every morning before she replaces it. M. Hervez de Chégoin, a distinguished practitioner, and member of the Academie de Médecine, has also made use of native caoutchouc in the construction of pessaries, but he cuts the bottles so as to give to the cup different degrees of depth.

The shape of the pessary varies according to the material of which it is constructed; thus we have pessaries that are round, cylindrical, oval, elytroid, figure of 8, *en bondon*, *en bilboquet*, crescent-shaped, ring-shaped, stem pessaries, with springs, cupped pessaries, and several others that we shall in succession review, at the same time pointing out the mode of using them.

[I take advantage of the close of this section to make a few remarks on the subject of the pessary, and particularly on the pessary as used in this city; and, in the first place, I must express my conviction that great abuses are to be met with in the prescription and use of this instrument, while a great many persons are restored to health, and many preserve a tolerable state of health by their use, who, but for such aid, would become irremediably diseased, or pass a long life of suffering. Many objections have been cited in the preceding pages by our author to the use, or rather to the abuse of this instrument, and the very natural and perhaps praiseworthy opposition to their employment, arising from considerations of a merely moral nature, ought to be encouraged as a means of preventing their unnecessary use as means of treatment in cases not at all calculated to be benefited by them. It seems to me that, in view of the nature of the support by means of which the womb retains its natural situation in the pelvis, every case of prolapsion or procidentia of the womb ought to be regarded as an affection of the vagina, and that the indication of cure confines itself to the restoration of the vagina and not of the womb as the pathological object.

The abdominal cavity is terminated above by the concave of the diaphragm, and inferiorly by the floor of the pelvis, consisting of tissues of combined muscles, fasciæ, cellular tela and skin. In the act of parturition, and in that of defecation, the inferior portion of the abdominal cavity is depressed by the action of the diaphragm and abdominal muscles, which press the movable contents towards the outlet, and depress it. In this act the whole perineum descends more or less considerably, and after the completion of the act returns to its natural position, partly by means of its contractility of texture, and partly by the act of the levator-ani muscles—muscles that in almost every instance of this return are put into voluntary activity.

With the progress of age, and under the debilitating powers of disease, the perineal terminus of the abdominal cavity grows less and less able to resist the antagonization of the diaphragm and abdominal muscles; so that, in such circumstances, the perineum becomes relaxed, and is found to be nearly horizontal or quite even with the tubera ischii; whereas, in young and healthy persons it is drawn upwards so as to make a deep sulcus above the level of those tuberosities.

In all persons possessed of very powerful levators-ani, the extremity of the rectum will be highly retracted within the pelvis, and retained there by the steady and normal tension of those muscles—but in those in whom those levators are thin and weak, the anus is found lower and on a level with the tubera, or even projecting below them. This case may sometimes be detected in young children exhausted with the long tenesmus of summer complaint; in adults, under protracted diarrhœa, dysentery, and other enfeebling maladies, as well as in women whose constitutions are broken up by frequent parturition.

Now let it be remembered that the levator ani is a levator vaginæ, and, in the same sense, a levator uteri, and that in all persons in whom these muscles have become extenuated and weak, there will be a greater or less disposition to, or actual falling of the womb; and that such a condition is incompatible with comfortable sensations in the muscles in question. Even the constrictor vaginæ muscle is, to a certain degree, a part of the muscular material in question, since the levators and sphincters, both of the anus and vagina, have their fibres more or less blended, and there is a consent in their actions. The levators relax coincidently with the relaxation of the sphincter ani, and their contractile efforts absolutely coincide.

Seeing now that the uterus depends for its place in the plane of the pelvic cavity, solely upon the place of the vagina, and that the latter is indissolubly connected with the bowel by means of the recto-vaginal septum, it appears clearly that all cases of prolapsion have also a clear connection with a certain morbid condition of the levator muscles. The same thing happens in the case of falling of the palate or uvula, which is clearly a muscular weakness, arising from an inflammation, either acute or chronic, of the substance of the palate or uvula.

It hence appears, that in cases of prolapsus uteri, I suppose that one great object to be held in view is the restoration to the levators of their lost or diminished contractility.

Doubtless, cases of prolapsion are most to be feared after long, tedious, or instrumental labours—labours where, from rigidity or bad proportion, the child has remained many hours within the pelvic cavity, jamming the muscular and other tissues within against the sides of the ischia, whose bony walls on the one hand contuse these muscles, while the head on the other is equally capable of affecting them with contusion.

After such a labour, a woman is very apt to get up from her lying-in with weakened levators, with the rectum feebly supported, and the uterus consequently lower than it ought to be; in fact, very few women are to be met with in whom, after giving birth to one or two children, the womb is not found very low in the pelvis. If she early becomes a widow, or at an early age ceases to bear children, the tension of these tissues is at length restored to the womb, and the whole perineum, indeed, rises again, until the approach of age is evinced by the last and permanent fall of the perineum with all the contents of the pelvis.

Under this view, how necessary does it seem that such patients should avoid all the causes of tenesmus, such as costiveness on the one hand, and drastic or other harsh cathartics on the other, pessaries of a bad construction, of too large a size, strangury, debilitating discharges of leucorrhœa, and, in short, whatever might serve to promote the descent of the perineal texture, the descent of which is incompatible with a due elevation of the organs whose support in situ naturali absolutely depends upon them.

I beg leave to remark that, in pursuance of a plan of treatment by rest in a horizontal posture very long continued, the muscular force of the patient is not unapt to be exhausted, and that it is not unusual for persons subjected to such treatment, to rise from a confinement to the bed of several months, duration, not at all amended in health, and consequently, greatly disappointed, if not injured by the treatment. In such patients, a method calculated to invigorate and enhance the muscular energies would be far more likely to produce a cure which would coincide with a rise or elevation of the perineum. Hence, I have, in many instances, found my patients to recover perfectly, when I have counselled them to take exercise, to be much in the air and light, to live upon a nutritious diet, to take wine and malt liquor, and to disregard, as far as possible, the painful or annoying sensations proceeding from the prolapsed state of the womb; assuring them that, probably, in proportion as their general health should improve, so would the local disorders, under which she suffered, gradually lessen and finally disappear. I have seen a lady this day, who, at the age of forty-nine years, informs me that she has scarcely been a day or night without a pessary for fourteen years past, an instrument for which she has not the least occasion, and perhaps never has had.

In making these remarks, I desire to apply them to cases where the use

of the pessary is a question of doubt, for, beyond dispute, there are many women who can enjoy neither comfort nor health without the aid of these remedies, which, as our author states, are sanctioned by the common consent of the profession for ages past.—M.]

## OF THE PRINCIPAL PESSARIES IN USE, AND THE METHOD OF EMPLOYING THEM.

Whatsoever may be the nature or form of the pessary selected for the purpose of keeping the womb in place after it has been reduced from its prolapsion, its application should be rendered, generally, subject to the following rules:

After having emptied the rectum by means of an enema, and directed the patient to evacuate the urine, she should place herself upon the back, with the hips raised upon a cushion, the knees separated, the legs somewhat flexed, and the feet resting firmly upon the bed. The pessary, anointed with cerate or oil, is then introduced by the surgeon into the vagina, taking care to present it in such a way that its smallest diameter shall be coincident with the smallest diameter of the orifice, and pressing it as much as practicable towards the inferior commissure of the labia, then pushing the instrument carefully from before backwards and upwards, he will carry it up to the height at which he designs that it shall remain, when he gives it the position he may deem requisite, seeing that the os tincæ may always correspond to the central opening.

[In the globe pessary constructed here, and much in use in this country, there is no central opening, and as the instrument is a sphere, it requires no farther care than to place it in the vagina beyond the constrictor muscle. I shall speak of this pessary in another page.—M.]

In order that the neck of the womb may the more perfectly adapt itself to the concavity of the pessary, the operator, supporting the instrument with the index finger, should allow the patient to rise and sit up for a moment, and even to walk a few steps, and to cough, in order to learn whether the instrument maintains its place, and produces no painful sensation, which, being found to be the case, he should allow her to return to her bed, whence she ought not to rise for a few days. After getting up from her bed, she would do well to pass a few days upon a couch or sofa, and, as far as possible, avoid any sudden movement.

Round pessaries and pessaries *à cuvettes* are flattened on the face, and exhibit a central depression of considerable depth, with a central perforation that ought to correspond with the os tincæ. The pessary *à cuvette* differs from the round pessary, properly so called, only in being concavo-convex. These two sorts of pessaries, that for a long time have been made of cork, covered with a coating of wax, or of box-wood, are at the present day generally made with gum-elastic. In introducing them, they are pushed edgewise into the vagina, and afterwards turned so as to make the central orifice correspond to the os uteri. This may be done by introducing the tip of the finger into

the opening of the instrument, or, previously to introducing it, a ribbon may be fastened, by means of a knot, to the smallest end of the pessary, and when the time arrives for turning the instrument, it may be pulled downwards by the ribbon while the piece is supported by one or two fingers, introduced for the purpose, and pressed against the opposite extremity or side.

This little ribbon should be left in the vagina, for the purpose of more readily extracting the pessary whenever it may be necessary to cleanse it or replace it by another one, or when the parts of generation may require to be cleansed; should the ribbon, however, be found to irritate or give any trouble, it should be cut off and taken away.

The oval pessary, which differs from the round one only in its shape, is objectionable, because it is easily displaced, and because it distends the upper part of the vagina too much, in a transverse direction, which, in some cases, is very painful or even insupportable. It is introduced lengthways, being slightly inclined to the left, in order to avoid compressing the urethra. After it has passed quite into the canal, it is turned so as to assume a horizontal position, by means of a loop attached to the end that is first introduced, the loop being pulled downwards by one hand, while the other supports the opposite extremity of the oval pessary.

*Ovoid* pessaries are nearly of the size and shape of a small turkey's egg, and are traversed by a cylindrical hole from end to end. These pessaries, which are employed only by the English and American surgeons, are inconvenient on account of the facility with which they are displaced under the least effort of the patient. Yet the introduction of this sort is very easy.

[M. Colombat is under some misapprehension in regard to the use of the egg-shaped pessary by the American surgeons. In fact, the egg-shaped instrument is rarely employed, so far as I know. In order to set the matter forth in its proper light, I shall proceed to cite, in this place, some paragraphs from the *Philad. Pract. of Midwifery*, by the translator, p. 145. "Pessaries are made of various shapes, and of a great variety of materials. Many are made of a piece of cork, cut into a proper form, and repeatedly dipped in melted wax until covered with a thick coat of that substance. The objection to this kind is, that by the warmth of the organs the wax becomes so much softened that the rough surface of the cork sometimes becomes uncovered, and then irritates the parts with which it is in contact. Others are made of the same material that is used for the construction of elastic catheters and bougies. Others, again, are made of glass, blown by the glass-blower into a convenient size and form. Some are used that consist of silver, and some are of silver washed with gold. Of the metallic pessaries now principally in use, in our American practice, two kinds are prepared; one of which is the flat pessary, or rather the disc-like pessary, which is concavo-convex, with a very thick periphery, and having a small perforation in the centre of its concavity. The other is a globe of silver washed with gold so as to prevent the oxidation of the surface. Both of these pessaries are made of plates of metal so thin that they are sufficiently light; and as

the gilded surface admits of a high polish, they are as little likely to irritate the parts they touch as any foreign body that could be constructed. I much prefer the metallic to the glass pessary, on account of the greater lightness of the former. It appears to me, that a globular pessary is capable of fulfilling all the indications that could possibly be collected for a mechanical remedy for this affection (prolapsus uteri). I prefer it in general, therefore, to all other forms of the instrument, particularly since it cannot become displaced by turning on its axis; a fault frequently found with the flat or discoidal instrument. I am fully confirmed in my appreciation of its superior value. The globe pessary was, I believe, the only instrument used by the late Dr. Physick, in the treatment of prolapsus uteri. He told me that while he was a pupil of Mr. John Hunter, and acting as dresser at Guy's Hospital, he had under his care the case of a patient who had suffered severely with prolapsus uteri. One day, while paying his visits, he saw a billiard ball that had been rolling about the ward, and the idea struck him that it might serve to support the womb in the case in question. He introduced it, and it succeeded so perfectly in alleviating her distress, that he ever afterwards preferred to employ the globe rather than the disc or any other of the numerous forms of the instrument."

I take this occasion to say that both the discoidal and globe pessary are made by Mr. Jos. S. Warner, Merchant street, Philadelphia, and that they are sold at the rate of five dollars each, which renders them rather too costly for common use; yet it is proper to say, that the construction is so perfect that they often remain one, two, or even three years in situ, without undergoing oxidation or losing their polish. The plates of hammer-hardened silver of which they are made, are so thin, that the weight of the instrument is very inconsiderable; many grains of pure gold are put on the surface, which preserves them from oxidation for a long time, as above mentioned.

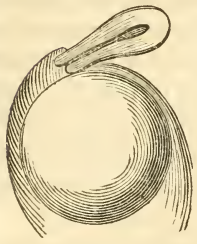
For the most part, a globe pessary, of two inches and a quarter in diameter, is both small enough and large enough. Occasionally persons are met with, to whom the introduction of one of more than two inches gives considerable pain; and others, again, in whom the os magnum is so relaxed and debilitated that two and a half inches are barely large enough for a pessary suited to the case.

In adjusting this instrument, the general rule laid down by our author ought to be observed. I mean that relative to the evacuation of the bladder and the rectum; after which the patient should get into bed, lying upon her left side, with her thighs at right angles to the trunk, and the knees flexed, with a pillow between them. If the globe be now dipped in olive oil, and pressed against the os magnum with a gentle force, which should be intermitted or suspended from time to time, in simulation of the dilating processes of a labour or abortion, it will, in general, be found not difficult to adjust the instrument. It is very much to be desired that a good deal of time should be required to place it within the vagina, for if it enters too readily, or with

too little force, it will be surely expelled at the first bearing down in defecation, or even in evacuating the bladder of urine; whereas, if it require time and some resolute application of force to adjust it, it will be very little likely to give trouble and vexation by an escape. To every woman who has recently suffered the introduction of such an instrument, the advice ought to be given never to go out without the napkin, lest, in some sudden fit of cough or sneezing or laughter, the ball might be driven from its place, to her mortification and dismay.

The globe requires no cuvette or depression, because, when adjusted, the anterior face of the cervix uteri lies upon the upper and posterior segment of the ball, the os tincæ looking backwards and downwards towards the sacrum, as in the figure, which shows very well that the womb must, under the use of such an instrument, be very much elevated in the excavation of the pelvis. I may add that every contractile effort of the sphincter vaginæ, and more particularly, every contraction of the levator ani muscles must push the globe upwards, carrying the womb upwards along with it.—M.]

Fig. 17.



The ring pessary, or pessary *en gimblette*, is wide, thick, with rounded edges, and with a central perforation, beveled upon both surfaces, but most upon that which is in contact with the os uteri. These pessaries, which are characterized by several inconveniences, that we shall hereafter refer to, may be introduced edgeways, and agreeably to the rules before laid down, as relative to the round pessary.

The figure of 8 pessary, invented by Brunninghausen, is notched both on its anterior and posterior edge, for the purpose of avoiding any interference with the rectum or the bladder; but it is inconvenient, and much more easily displaced than the ring pessary, which dilates the vagina equably, and forms a sort of circular sulcus, that prevents it from getting out of place. It is introduced in the same manner, and according to the same rules as are applied for the oval pessaries.

The *stem-pessary*, or pessary *en bilboquet*, the employment of which seems chiefly indicated after the reduction of a complete precipitation of the womb, is commonly fabricated of box or ivory, or what is still better, of caoutchouc. At the uterine extremity, these instruments exhibit a concavity, the thick, rounded edge of which resembles that of a pessary *en gimblette*, and the bottom of which has three large openings. To the convex surface of the cup is fixed, by means of three branches, a straight stem or rod, which is open at its vulvar end, so as to admit of the ribbons, by means of which it is secured to the girdle or T bandage, which the patient ought always to wear.

The pessary *en bilboquet*, invented during the last century, by

Suret, a surgeon, has undergone various modifications in the hands of different surgeons, as F. Beaulieu, Saviard, Preuner, Bauhin, Zeller, Désormeaux, Recamier, Villermé, Guillon, Deleau, &c. Beaulieus's instrument consists of a silver circle supported by a sort of three-pronged fork. Saviard's, made of steel, consists of a spring, one extremity of which is surmounted by a small spring, which assumes a curve in the vagina, while the free end is attached to the girdle. Professor Boyer made use of a spring of this sort, which was surmounted by a sponge for the purpose of keeping the prolapsed womb in its proper situation; and he used it particularly in cases in which too much irritation and pain were produced by the ordinary sorts of pessaries.

In order to render the stem more elastic in its longitudinal direction, M. Recamier conceived the idea of composing it of a spring *en boudin*, (suspender spring,) probably covered. Professor Dugès thought the stem ought to be placed obliquely as to the cup, as the vagina is in regard to the axis of the cervix uteri.

Bauhin's pessary was composed of a rather small silver circle, forming a sort of thick cushion, sustained on a three-branched stem, and pierced with a hole in the centre. Villermé's, founded on the same principle as that of Saviard, consists in a long arch, the concavity of which embraces the front of the pelvis. The tail of the piece, which is a sort of crotchet, rests upon the hypogastrium, while the head of the instrument, introduced within the vagina, serves to support or suspend the womb in its proper place. Our colleague, Dr. Deleau, to whom the science is indebted for important improvements, has also constructed a pessary which unites the qualities of the pessary *en bilboquet* and the pessary *en gimblette.* This ingenious instrument is constructed as a spiral spring, the first circle at the top of which is *fixed*, while that which is at the base is free, and may be made larger or smaller at will. The whole is coated with caoutchouc. When it is to be used, the circle at the base is more or less reduced, and being introduced into the vagina with the smallest end upwards, it is left there, and accommodates itself to the dimensions of the organ, without any liability to displacement. Dr. Guillon has also modified the stem-pessary by combining the bilboquet and the cork one by means of a hollow stem, which is a screw, by turning which the uterus is elevated at will.

In adjusting a stem-pessary, the cupule end must be introduced into the vagina gradually, giving to the stem its proper direction. When it has passed far enough, it is to be secured by the T bandage, as already mentioned.

We shall presently explain the inconveniences connected with the stem-pessary, which, as they rarely remain in the centre of the vagina, are found to see-saw within the passage, which they contuse, and sometimes even perforate with the end of the stem. Dr. Laroche extracted one of this sort, which had fixed itself transversely, so that the stem had penetrated the bladder, while the cupule had pierced the rectum. The cupule had become the nucleus of a stercoral concretion, composed of large crystals that adhered to it, while the

stem itself, in the cavity of the bladder, had covered itself with a calculous concretion of uric acid.

The pessary *en bondon*, or conoidal pessary, is commonly made of caoutchouc, and generally in the form of a long, hollow cone, truncated at top, which is cup-shaped, with a central cavity for the reception of the neck of the womb, the other extremity being supported by strings attached to the girdle. These pessaries, which are chiefly used in cases where the vagina remains prolapsed, notwithstanding the reduction of the uterus itself, are inserted with the large end first, which must be compressed in the fingers of the operator, to make it enter the vagina. It is inconvenient, as being too heavy, and as tending, by the sharpness of its edges, to contuse and injure the parts.

Professor Jules Cloquet is the author of an instrument called the elytroid pessary, of a shape calculated to conform as closely as possible to that of the vagina itself. These instruments are constructed of a web, covered with varnish or caoutchouc. They are hollow, flattened antero-posteriorly so as to present a convex face towards the rectum, and a concave one towards the bladder. At the upper end is a transverse oval depression or cupule. A tubular canal leads from top to bottom of the instrument, for the purpose of a conduit to the mucous and menstrual excretions. The lower end has a rounded angle at each side, which rests within the vagina, above the vulva. These pessaries, which, to a certain extent, mould themselves to the form of the vagina, certainly do support the womb and its appendages perfectly well; but, in consequence of their weight, they are found to be fatiguing to the women who use them. They are attended with another inconvenience, common, indeed, to all tubular pessaries, which is, that they impede the discharge of the menses; for the blood often coagulates within and obstructs the tube. M. Cloquet's elytroid pessary is closely analogous to that which is figured by Smellie, in the XXXVIII Plate of his Treatise on Midwifery.

In introducing the elytroid pessary, its inventor, M. Cloquet, directs that the cupped end should be presented to the orifice, but directed so that the convex surface of the elytra should look towards the patient's left thigh. The instrument is now to be slowly pressed upwards, and, when the lower end has passed the vulva, the right index ought to be placed within the hollow of the instrument, and, with the left index, it should be adjusted so that its concavity may be placed in correspondence with the bladder, and its convexity made to look towards the rectum.

Finally, Dr. Brouard has recently invented a pessary with lateral and divergent stems, composed,

1st. Of an ivory or ebony ring, eighteen to twenty lines in diameter.

2d. Of two branches of silver or other metal, twenty-one lines in width. These branches are attached to the under surface of the ring, and terminate in two ivory buttons. According to its inventor, this pessary, which is easy, both as to its introduction and re-

moval, differs from all former ones in size, in its point d'appui and its operation. In fact, the smallness of the ring renders its introduction very easy, and much less painful than that of the other sorts. The point d'appui is not taken in the ratio of the circumference of the ring, but it depends on the divergence of the elastic branches, the buttons of which rest upon the inferior lateral portions of the vagina.

Should this instrument be found to possess all the advantages claimed for it by the inventor, we have no doubt of its coming into general use; particularly as a support in cases of procidentia of the womb; but it never can take precedence of the cylindrical forms of the pessary, in cases connected with the various vaginal hernias.

## OF THE CHOICE OF A PESSARY.

According to most authors, the round pessary is indicated where the diameter of the vagina is small; but, under contrary circumstances, choice is generally made of an oval, or gimblette, or figure of eight pessary.

The stem or bilboquet pessary is chiefly used where the axes of the superior strait are very large, and the woman emaciated; or where the walls of the vagina, on account of their weakness and flaccidity, could not readily retain the instrument that is placed within them for supporting the womb.

The pessary *à bondon* is reserved for cases in which the vagina is still prolapsed, notwithstanding the uterus itself is reduced. The elytroid pessaries, which, in many cases, supersede the others, are perhaps better suited than any others for the cases of anteversion and retroversion of the womb; in which we must raise that end highest that is designed to keep the womb in situ,—of the particular deviations of which we shall hereafter treat. The cylindrical gum-elastic pessary of Dr. Rognetta fulfils the same indications perfectly well, and is especially excellent as a remedy for vaginal enterocele and cystocele.

Where the patient has been troubled with a very copious uterine or vaginal catarrh, the use of the pessary ought to be deferred until this particular malady shall have been removed or at least much amended; for the presence within the vagina of such instruments could only increase the evil. In doing this we should but follow out the principle laid down by Boyer in his *Treatise upon Surgical Diseases*, tom. x., where he says that the pessary should never be employed except in cases where the os uteri is neither engorged nor painful, and where we are certain that the symptoms experienced by the patient are dependent upon displacement of the womb, and not upon engorgement or elongation of its neck.

## ACCIDENTS CONNECTED WITH THE PRESENCE OF A PESSARY IN THE VAGINA.

Pessaries of all kinds never fail to excite more or less irritation. The almost inevitable pressure of the instrument upon the parts con-

tained within the pelvic cavity impedes the functions of the organs, more especially those of defecation and urination. It often happens that the uneasiness and the insupportable pains which they produce extend to the loins and the groins, and give rise to engorgement of the inferior extremities.

Women who make use of the pessary without great attention to means of cleanliness, are often attacked with pernicious symptoms; for by being left too long in situ, the instrument undergoes decomposition, corrodes, and is coated with calcareous incrustation;* becoming in this way the cause of permanent irritation, it excites inflammation and change of texture, ending in the formation of purulent vegetations that exhale the most repulsive odour: the action of the mucous apparatus being increased, acquires an exaggerated vitality that gives rise to vegetations that become so abundant as not only to fill the vagina, but to cover up the whole pessary and completely conceal it from the touch. Désormeaux, the father of the professor whose recent loss we deplore, was obliged to excise a great number of vegetations before he could succeed in extracting a pessary that had perforated both the bladder and the rectum. Professor J. Cloquet, in consultation in the case of a lady under treatment for cancer of the vagina, found the canal filled with fungous vegetations: having decided to remove these fungous masses, he discovered a pessary within the vagina and extracted it. The instrument which had been forgotten for ten years, was completely covered with fungous matter and coated with a calcareous incrustation. *Acad. de Med.*, 29 June, 1826.

Whenever the central opening of a pessary, particularly a round one, an oval one, a cupped one, or one with a ring, is too large, the neck of the womb is liable to become slowly engaged within the opening, and at length strangulated, and after a time gives rise to the most serious consequences—such cases have been seen.

The *Annals of Medicine of Oltemburg* for Oct., 1826, and the *Bibliothéque Médicale*, t. 17, p. 269, mention a young unmarried Dutch girl who, being affected with prolapsus, made use of a ring pessary of ivory, the opening of which being too large, produced a strangulation of the womb, exhibiting a tumour external to the organs nearly as large as a child's head. As the patient was in the utmost pain,

* On the 25th March, 1832, I was requested to see the Baroness de Carl ... who was then about 75 years of age, and who in common with her whole family supposed herself to be afflicted with cancer of the womb. What seemed in fact to justify this distressing diagnosis was that Madame de Carl ... was affected with intolerable pain and a most profuse and fœtid vaginal discharge. Instead of finding a cancerous tumour, as it had been asserted to be by Dr. B ... I ascertained that there was a round pessary with a central hole, but which was thickly incrusted with calcareous matter. It had been applied at Vienna, in Austria, after her last confinement, which was at least 30 years before. The instrument, which was but little altered, having for a long time given rise to no pain, had been so completely forgotten that she could with difficulty believe in its presence until I showed it to her after I had extracted it by introducing a finger into the hole in the centre of the pessary. For the relief of the pain and inflammation I prescribed baths and emollient injections combined with chloride of lime; enemata, of a soothing and narcotic kind, for the bowels, and from that period her health has been good—the prolapsus did not return, notwithstanding that no pessary has been since made use of.

the reduction was attempted, but in vain until after the ivory ring had been divided with a saw. Augustin Roux, *Journ. de Méd. et de Chirurg.*, Jan. 1778, relates that he was obliged to make use of a forceps to extract a pessary of this sort.

Another very bad effect of pessaries is, that they, especially the bilboquet, are found sometimes to injure the walls of the vagina, and occasion a perforation to take place through the bladder or the rectum, or both at once; thus giving rise to recto and vesico-vaginal fistulas, the consequences of which are so much the more deplorable as they are frequently beyond the reach of art to cure them. These perforations may take place rapidly where the inflammation is very active; the pressure mortifies the parts pressed upon, which become gangrened, and separate in sloughs, through which the instrument passes.

Sabatier* relates that Camper communicated to the Academy of Surgery a case in which the surface of a bilboquet pessary was found to be quite diminished and the stem bent. The same author adds, that ivory pessaries are not only subject, in process of time, to corrode and become altered, but that they may also become covered with calcareous incrustation. The celebrated author of *La Médecine Operatoire*, (loc. cit.) also remarks, in speaking of a pessary which he was obliged to cut in two with strong pincers before he could succeed in extracting it, that it was covered with saline incrustation as rough as a rasp, so as even to wound his fingers. Jh. Nollet† and Pouteau‡ relate cases of the same kind, and express themselves in terms similar to those used by Sabatier.

Professor Bèrard found great difficulty in extracting a bilboquet pessary which had lost its stem, and which had perforated both the rectum and the bladder. M. Lisfranc, in a similar case, was obliged to procure an opening into the rectum by dividing the perineum, and the anterior part of the anus. By this means he succeeded in extracting the pessary with pincers; but the patient fell a victim to an attack of peritonitis.§ (*Jour. Univ. Hebd. de Méd.* t. i. p. 263.)

In the *Dict. des Sciences Méd.*, t. vii. p. 47, the following case is found. A country woman had, for many years, worn a pessary en bilboquet, which she did not extract because she never experienced any inconvenience from its presence. In process of time, as she was now suffering violent pains, she endeavoured to extract the instrument by pulling at the stem, which became detached, leaving the circle within the vagina. The distress had gradually increased, and she at length found that a portion of her fæces as well as of her urine came away through the vagina. Having got admission to the Hôtel Dieu, in hopes of a treatment for her disgusting and painful disorder, she came under the care of Professor Dupuytren, who ascertained, in an examination per vaginam, that the circle of the pessary was exposed in the rectum, and that it was also partly in the bladder, which it had perforated, as he ascertained by means of a sound introduced into that organ. All attempts to extract the pessary with the fingers

* Mem. de l'Acad. de Chir., t. iii. p. 33.
† Observat. Chirurg., 33.
‡ Œuvres Posthumes, tom. iii.
§ Revue Méd., tom. i. p. 37, 1831.

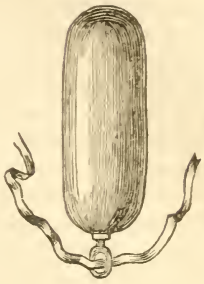
having been frustrated, Dupuytren was more successful by the use of a strong pincers, with serræ, and which had been constructed for this very purpose. Rest, and the use of a sound in the bladder, where it was maintained for three weeks, cured the woman of both her vesical and rectal fistula. Mauriceau tells us that, "in 1696, he extracted from a woman sixty-seven years of age, a large ivory pessary consisting of a ring, which a truss-maker had adjusted for her on account of a falling of the womb. She had worn it for twenty years without having suffered any inconvenience from it; but for the two last years she had been subject to a great defluxion of humours upon this part; a disposition to ulceration had also manifested itself, with a profuse discharge of purulent matter mixed with blood; and this had continued for six months, so that the patient had become very weak."

In speaking on the subject of pessaries without stems, Sabatier, (loc. cit.) says, "that if the instrument is large enough to rest upon the sacrum, and to resist the impulse that tends to expel it, it produces a retention of urine, a difficulty in passing the fæces, great pain, and tension of the belly. If, on the other hand, the pessary is too small for the vagina, the weight of the womb and superincumbent viscera force it downwards, upon the least effort made by the woman at urine or stool; or else, in spite of its presence, the patient has a constant feeling of weight at the hypogastrium, dragging sensation in the loins, and pains in the thighs, which sometimes make it out of the question for her to walk." Sponge pessaries, unless removed and washed every day, are also very objectionable, as the fluids from the womb and vagina, with which the sponge cells are filled, undergo decomposition very rapidly. Even the sponges themselves soon become putrid, and the high temperature of the vagina, produced by the inflammation, hastens the progress of these changes. We may expect to have sanious and fœtid secretions; whereupon intense fever attacks the patient, and all the symptoms of purulent absorption are disclosed. Dr. Grénier, in his *Inaugural Dissertation*, relates the following case: During the month of May, 1832, M. Brodie, of London, one of the most celebrated of the English surgeons, was called to a lady who had forgotten a small sponge in the vagina. He found her labouring under the incontestable symptoms of typhoid fever, with marked prostration, fœtor of the excretions, &c. In consequence of the nature and the abundance of the vaginal secretions, he suspected, and at last discovered the cause of the malady. He immediately extracted the remains of the sponge, which came away piecemeal; and he then prescribed frequent injections of chlorides, and treated her as if combating a typhoid fever. The symptoms were amended upon removing the cause, but the patient recovered very slowly. Were it not, in fine, that we fear being found too prolix upon this point, we could add to the numerous samples we have already brought forward, a great many cases fitted to set forth the accidents that may supervene upon the employment of the pessary.

Inasmuch as the use of these instruments is far from being always safe, they ought only to be employed in cases of absolute necessity.

A very good substitute for them is in fact found in the astringent sachets recommended by Osiander, or in fine sponges that should be removed at night, and carefully washed before they are replaced. I have had a sort of bag made of pure India rubber, filled with air, which, although very supple and light, supports the parts very well, without irritating them.—(*Vide fig.* 18.) Besides, as these sachets are shaped somewhat like the male organ,* and as they can be varied as to length and diameter, they adapt themselves to the vagina, and may be retained by means of the T bandage or by the napkin usually worn during the catamenia.

Fig. 18.



These priapiform pessaries being easy to adjust or remove, ought only to be made use of in the day time, while the patient is out of bed; but, in order to prevent the womb from falling, even for a short time, the instrument ought to be adjusted before leaving the bed. If the other kinds of pessaries could be made use of in the same way, the radical cure of a prolapsion in the first or even second stage would often be effected in the course of a few months.

The irritation and inflammation excited by the application of the pessary ought to be counteracted by rest, by diet, baths, enemata, emollient and opiate injections, and invariably by a temporary suspension of the use of the instrument.

Women accustomed to the use of the pessary, should never lose sight of the fact, that the presence of such an instrument in the vagina requires the most scrupulous attention to cleanliness. They should frequently bathe, and they should have recourse to injections of cool water, or a mixture of wine and water, twice a day. They should also remember that the instruments ought to be removed at least once a fortnight, in order to be replaced or repaired in case of its appearing to be necessary.

We shall close our observations upon this subject by the remark, that in many cases, especially recent ones, of prolapsus, the displacement might be cured by means of astringent injections and fomentations with articles of which tannin should constitute the chief ingredient, and which may be rendered still more active by adding alum, or white or green vitriol; or the patient might try the effect of a small tampon, made of fine linen or sponge, impregnated with the same substances, and introduced two or three times a day into the vagina, and left there about half an hour each time.

## COMPLICATIONS CONTRA-INDICATING THE USE OF THE PESSARY, AND INDICATIONS IN CERTAIN PECULIAR CASES.

We have said before that certain complications may exist that lead

* The ancient Greek physicians made use of pessaries like those just mentioned of the form and length of the male organ, which is the reason why they are called πεσσοὶ πισσωτοί, or priapiform pessaries.

us to reject the employment of the pessary, and that chronic vaginitis and metritis require an antiphlogistic treatment, as preliminary to the employment of the instrument. Nevertheless, a superficial excoriation or ulceration of the vagina does not always contra-indicate the pessary, as was supposed by Ruysc hand Boyer; for the reduction of the womb often cures the vaginal inflammation which had been produced by the prolapsion. On the other hand, a cancer situated upon the neck or body of the womb in prolapsion, would forbid the use of the pessary, whether from its increasing the irritation and pain, or whether the reduction of the womb would deprive us of the facilities and warrants of success resulting from different operations, among which I may mention cauterization, excision of the cervix, or the absolute ablation of the cancerous organ.

Should cancerous ulcerations, situated upon the cervix, from their slightness, not contra-indicate the reduction of the womb, it ought to be supported by a fine sponge, frequently renewed, as the most fitting support in such a case.

Where a polypus exists coincidently with a prolapsion, the polypus ought to be removed before any attempt at reduction is made, which then becomes an easy task: wherever, also, there happens to be a calculus in the bladder, complicated with falling of the womb, we are advised, both by Ruysch and Dugés, to remove the calculus by a direct incision. Lastly, where the prolapsus takes place in the first months of pregnancy, the reduction should be at once effected, and the organ retained in situ by means of a pessary, or the woman should be prevailed upon to lie in bed during the first periods of gestation. Means of support and rest are equally useless subsequently to the fourth month, for at that stage the womb, though in the second stage of procidentia, has acquired a magnitude sufficient to retain it above the superior strait.

In a case in which the precipitation has taken place and existed throughout the whole of the pregnancy, we must assist nature in the delivery, and follow the example set by Mauriceau, Portal, Ducreux and Wagner, who, after gently dilating the thinned circle of the os uteri, carried in the hand, in order to deliver the child and the secundines also, and then reduced the womb, now contracted and diminished in size. Where the lips of the os tincæ happen to be affected with an induration, preventing the dilatation of the neck, the orifice may be enlarged by means of two or three incisions, made with a probe-pointed bistoury; cases of prolapsus in complication with both induration and pregnancy, are very rarely to be met with, for, up to this time, they have been noticed only by Marignes, of Versailles, by Choppart, and our skilful accoucheur, M. Capuron.

### CURE OF PROLAPSUS UTERI.

The curative treatment of uterine prolapsus is rarely followed by complete success. With a view to the radical cure of the disorder, a great variety of measures, more or less efficacious, have been recommended, and among them protracted rest, and decubitus; par-

ticularly observing to keep the pelvis elevated higher than the shoulders; the use of pessaries, gradually reducing the size of the instrument; aromatic and astringent injections; cold bathing; sachets filled with tan and soaked in rough wine; and lastly, the tampon, composed of styptic and astringent materials.

Some authors, particularly M. Delloir, have recommended a subsequent pregnancy as an excellent means of obtaining a radical cure of hysteroptosis; without adopting absolutely the opinions set forth upon this point, we think that the increase of the volume resulting from gestation, could be of no avail, unless the patient should consent to maintain a horizontal position during the first five months of the pregnancy; otherwise, we should look upon the state of pregnancy as an hurtful and even dangerous one. Besides, we must wait until experience and facts shall enable us to speak more confidently of the value of M. Delloir's recommendation.

[I look upon it that many women recover from very troublesome prolapsus, by a succeeding pregnancy. I have seen women perfectly restored to health after a pregnancy and lying-in, who had been much distressed by prolapsus for some years before.—M.]

In order to effect a radical cure, it has also been proposed to obliterate the vagina, by making the sides of the canal cohere, but as the mucous membranes cohere very reluctantly, we think there would be great difficulty in bringing about the result proposed. The difficulties met with in the cure of recto and of vesico-vaginal fistulas, justify our fears on this point; moreover, an acute, though factitious inflammation of the vagina would not be wholly safe, and might lead to very serious consequences.

Dr. Marshall Hall has published a case, in which he asserts that he cured an almost complete prolapsus by means of an artificial constriction of the vagina. He removed a portion of the membrane eighteen lines wide, from the top to the bottom of the vagina, and united the edges by means of the interrupted suture. Prof. Dugés expresses a doubt as to the durability of success from this operation, and thinks that, notwithstanding its constriction, the vagina may, after all, be pushed downwards, dilated and prolapsed again by the weight of the womb. We do not indulge in all the fears of the learned Montpellier professor, particularly if care be taken to relieve the engorgement of the womb, which is most generally the cause of its prolapsion. Although this curative method is the most painful, yet it appears to us to be, above all others, the most likely to lead to a radical cure. One thing is certain; the operation, the first idea of which appears to have originated with M. Girardin, has been successfully performed in France, by M. Bérard, and in England, by Mr. Irving.

[It has been twice performed here, by Dr. William Poyntell Johnston. The success was complete; but, in both instances, the disorder returned in about six months.—M.]

## EXTIRPATION OF THE PROLAPSED WOMB.

We shall finish our remarks upon this topic by stating that, on some occasions, the more or less complete extirpation of the womb has been successfully performed, where the prolapsed womb has been found either in a state of gangrene or of cancerous degeneration. This operation, to which, as Astruc* says, we must never resort but in the last extremity, *in evidenti mortis periculo*, was anciently practised with success, as related by various authors, as Aetius,† Paul of Egina,‡ Berengarius Carpus,§ J. Langius,‖ Marcus Gattinaria,¶ Ant. Benevenius,** Christophus à Vega,†† Ambrose Paré,‡‡ and many others too tedious to mention.

Soranus, who was distinguished among the ancient authors for the fortunate temerity of his operations, recommends that the prolapsed and putrified womb should be extirpated. "If," says he, "the pendant portion of the womb becomes ulcerated from the acrimony of the urine and the uncleanness of the parts; if it putrefies, extirpate it without hesitation; you are warranted by example to do so; it has been completely extirpated in some instances with the most perfect success." (Aetius, *Tetrab.* iv., *Serm.* 4. *cap.* 76; and Peyrille, *Hist. de la Chir.* t. ii. p 282.)

The gangrenous prolapsed womb has also been removed by a single ligature applied at the pedicle, or with a double ligature, each comprising one half of the root of the tumour. This method, two successful cases of which are given by F. Rousset,§§ has also been practised by Newnham, Clarke, Marshall, Windsor, Récamier, and by some other distinguished practitioners. Lastly, when the prolapsed womb, in a state of disorganization, leaves no hope from any other method of treatment, resort has been had to a ligature at the root of the tumour, and the excision of all beyond it. This proceeding has been successfully adopted by Carpus, by A. Paré, by Baxter, and by Bernhard.

## METHOD OF OPERATING.

Although the excision of the womb, which has been long in a state of complete prolapsus, is a very terrible operation, viewed in the light of its immediate or remote consequences, we shall proceed to give a brief description of the different modes of operating employed for the purpose.

M. Récamier‖‖ begins with the vagina; then, his first incision being made, he separates the cellular tissue with his fingers, until he comes to the peritoneum: he next divides the upper two-thirds of

* Maladies des Femmes, liv. ii. t. iii. p. 409.
† Tetrabib., iv., Serm. iv., cap. 76.
‡ Lib. iii. cap. 76, and lib. vi. cap. 6 & 22.
§ In Isagoge Anatomicâ.
‖ Epist. Med., epist. 39.
¶ Prat. Cap. de Exitû Matricis.
** Observ. Med., obs. ix. de Mirand Morb. Caus., cap. 12.
†† Comment. ad Aphorism. 18. lib. viii.
‡‡ LXXIV. cap. xxviii.
§§ De Partu Cæsareo, liber. p. 393.
‖‖ Rev. Méd., 1825, t. iv. p. 393.

the ligaments, and, by means of Deschamp's needle, passes a ligature round the inferior third, which contains the uterine artery—and finishes the operation by removing the organ. This mode, which was adopted by MM. Récamier and Marjolin, upon a woman with a bad prolapsion, and who also had a fungous cancer of the womb, was followed by imperfect success; for the patient died two months after the operation.

Professor Delpech,* whose recent loss is so much to be deplored, made use of this same operation in a female aged sixty-six: he proceeded as follows:—the patient having been placed as for lithotomy, he first carefully divided the whole anterior wall of the vagina, which had been attacked with cancer; then, after having cautiously separated the anterior part of the rectum, which was also affected, he removed the tumour, which was completely isolated; he applied ligatures to the divided arteries, and filled the vacuum left betwixt the remaining vaginal walls with fine sponge, for the purpose of keeping them apart.

Langenbeck's method differs from the above, in regard that that able surgeon deems it useful to dissect the whole uterine peritoneum off from without inwards, so that the serous membrane is not wounded by the removal of the womb. This operation was done by M. Langenbeck for a female affected with incomplete prolapsus uteri, and with scirrhous degeneration of the womb, and was crowned with the most perfect success, for the woman's health was completely restored. The removal of the womb by this method is so long and difficult that we hardly think M. Langenbeck will find any imitators, particularly as we are not convinced of the necessity for dissecting off the whole of the peritoneum, that necessity not having been demonstrated.

The removal of the womb by the ligature is very painful, and is attended with a risk of there being comprehended within the ligature, either the urethra, as in the case seen by Ruysch, or a loop of the intestine, or even a portion of the urinary bladder. With a view to render the extirpation less painful, and, at the same time, to secure a more prompt separation, Faivre and Windsor both made use of a needle, armed with a double ligature, by which the neck of the tumour was strangulated in two equal halves. If, notwithstanding all the objections we have mentioned, the operator should still desire to proceed by the method of strangulation, we should think it better at once to remove all the substance of the mass beyond the ligature, whether it be a simple or double one, and not wait for a separation produced by the ordinary sloughing process under the ligature. For fear of implicating the bladder or an intestinal convolution, the pelvis ought to be shaken before commencing the operation; and it should be elevated upon a cushion, so as to be higher than the rest of the trunk. However, where the extirpation of the womb affords the only chance of safety to the patient, we think the knife preferable to the ligature, as being less painful and more prompt, and as offering, besides, a greater

† Memorial des Hopitaux du Midi., t. ii. p. 612.

proportion of successful results than the other methods of ablation that have been used.

## OF ANTEVERSION AND RETROVERSION OF THE WOMB.

The terms anteversion and retroversion have been applied to those cases in which the longitudinal axis of the uterus has been found placed in a horizontal position.

As these two uterine displacements exhibit a close analogy to each other, as far as regards their causes, symptoms and treatment, we have thought it best to speak of them under one head, so as to throw more light upon the subject and obtain more precision in detailing the history of the cases by studying them together.

In anteversion of the womb, the fundus is borne towards the symphysis pubis, and the os uteri towards the sacrum. In retroversion, the womb likewise becomes horizontal, but the fundus is lodged in the hollow of the sacrum, and the mouth of the womb is carried to the posterior surface of the symphysis of the pubis.

The writings of Hippocrates contain many passages, proving that the deviations of the position of the womb had caught his attention; and it is not to be doubted that he was referring to retroversion of the uterus, where he said, Si uteri ad medios lumbos fuerint, dolor imum ventrem, deinde crura detinet; cumque ventris onus deponit, acutiores suboriuntur, stercusque non nisi vi progreditur, urina guttatim fertur, et animo linquitur, &c.*

In the fragments extracted from the works of Aspasia, (*De reclinatione ascens. et recurs. uteri,*) preserved by Aetius,† we find her speaking very distinctly on the subject of retroversion, for which she indicates a rational mode of treatment, which we shall make known presently.

In his work on the diseases of women, published in 1604, Rod. à Castro, a Portuguese Jew physician, who studied at Salamanca, and afterwards emigrated to Hamburg, where he died, gives us an imperfect version of the remarks of Hippocrates and Aspasia upon retroversion of the womb. Israel Spach, who was professor at Strasburg, and collected all that had been written previous to his time, on female complaints, likewise speaks of uterine displacements, in his work, published in 1597, under the title of *Gynæciorum, Sive de Mulierum, &c., Affectibus et Morbis.* Since the days of these authors, Gregoire, a Paris surgeon, was the first to speak particularly of retroversion and anteversion. He taught these displacements in detail, to the pupils of his course on midwifery; and it was, in fact, to the lectures of this professor, that Walter Wall, the English surgeon, was indebted for his first notions on the displacements of the womb. Upon returning to his own country, he was consulted, in 1754, for a case of retroversion. He recollected the precepts of Gregoire, and requested the celebrated Hunter to assist him with his counsel; notwithstanding which, the patient sunk on the eighth day.

* De Natur. Mal. Op., t. ii. p. 542. Ed. Kulm.
† Tetrabib., iv., Serm. iv., pp. 76 and 77.

Hunter, considering this affection to be worthy of the regard of the profession, made it the subject of a monograph, which he published in 1770, in the 4th vol. of the *Med. Obs. and Inquiries*, and gave it the name of *retroversion*, which has been ever since generally adopted. Walter Wall and Syme called it *hernia uteri*. Levret designated it as *renversement transversal;* and Desgranges, as incubation.

Since the publications of Hunter and Syme, a multitude of writers have put forth their observations upon the subject, as Levret,* Wlzezech,† Wall,‡ Desgranges,§ whose memoir was crowned in 1783, by the Academy of Surgery; Fred. Jahn,‖ Cockell,¶ Murray,** Baudelocque,†† Merriman,‡‡ G. I. Schweighauser,§§ Schmidt,‖‖ and Ameline.¶¶ There are a great number of observations published in various collections, from Richter,*** Garthshore, Bird and Hooper,††† J. Clarke,‡‡‡ Klein,§§§ Schneider,‖‖‖ Kirshner,¶¶¶ Brunninghausen,**** Hervez de Chégoin,†††† Madame Boivin and M. Dugès;‡‡‡‡ by M. Bazin de Basseneville;§§§§ and by other persons whom it is needless to cite. Both anteversion and retroversion may take place in the non-gravid womb, and also during pregnancy; but, in general, the deviations in question, and which are always more considerable in the retroversion, cannot take place later than the fourth month of pregnancy, because, at that period, the longitudinal diameter of the organ exceeds the antero-posterior diameter of the pelvis.

Anteversion of the womb, though very rare in pregnancy, is of pretty frequent occurrence in the non-gravid female. Retroversion, on the other hand, has most frequently been met with in pregnant women. Frederick Jahn did not admit that retroversion could be complete except in pregnancy; but Levret and Saxtorph proved by very well ascertained cases that it may occur not only in women who have never had children, but even in the virgin. Dr. Schweighauser, of Strasburg, met with forty-four cases of retroverted womb: thirty-five

* Remarques sur les Déplacements de la Matrice. Ancien. Jour. de Méd., t. xl.
† De Utero Retroflexo, 1777. ‡ Diss. de Uteri Retrovers., 1782.
§ Journ. de Méd., t. lxvi. p. 85. ‖ De Utero Retroverso, 1787.
¶ Essay on Retroversion of the Uterus, 1785.
** Uteri Retroversionum Animadversiones, 1797.
†† Du Renversement de la Matrice, 1803.
‡‡ On Retroversion of the Womb, 1810. §§ Aufsaetze über einige, &c., 1817.
‖‖ Bemerkungen und Erfahr.; *i. e.*, Observations and Experiments on Retroversion. Vienna, 1820.
¶¶ Diss. sur l'Antéversion. Paris, 1827. No. 55.
*** Chirurg. Biblioth., b. v. p. 521; b. ix. p. 182.
††† Med. Obs. and Inquir., t. iv., v. and vii.
‡‡‡ Pract. Essay on the Management of Pregnancy and Labour.
§§§ Chirurg. Bemerkungen, p. 235. ‖‖‖ Chirurg. Biblioth., Richter, 1791.
¶¶¶ Stark's Archiv. für die Geburtshulfe, b. iv. st. 3. 637.
**** Journal de Siebold, b. iii. st. 1. ann., 1819.
†††† Mém. de l'Acad. de Méd., t. ii. 319, 1833.
‡‡‡‡ Traité des Mal. de l'Uterus, 1833.
§§§§ Mem. sur la Rétroversion. Annales franc. and étràngéres, d'Anat. and de Physiol., Mars., 1837. Paris, Lévrault.

were in women not pregnant, and only five were met with in gravid females. Among the thirty-five mentioned there was one female seventy-two years of age; one case was noticed following delivery, and one was in a virgin with the hymen perfect. Dr. Bazin de Basseneville, who has given these results from Schweighauser, has likewise published in the *Annales Françaises étrangéres d'Anat. et Physiologie* (March 1837) several cases of retroversion, in women without children or virgins. Most of these cases, endowed with all desirable authenticity, are taken from the practice of Messrs. Brunninghausen of Wurtzburg, Schmitt of Vienna, Schneider of Balby, and Kirschner of Poeneck; and, in fine, the Treatise on diseases of the womb by Mad. Boivin and M. Dugés contains three cases of retroversion in patients not gravid. The displacement therefore is not so rare in non-pregnant women as it has been supposed to be.

Both anteversion and retroversion may take place either gradually or suddenly. In the first case, the symptoms are slight in the beginning, and daily increase in severity, following, in this respect, the progress of the accident; but in the second case, the deviation of the womb is accompanied at once with alarming symptoms, particularly if it be a retroversion. The causes that predispose to gradual displacements are a natural mobility of the womb, a certain smallness of the pelvis, a deep curvature of the sacrum, a decided prominence of the sacro-vertebral angle, the gentle and prolonged pressure of the bowels upon the fundus and on one of the surfaces of the womb. The symptoms that supervene have less reference to the extent of the deviation than to the volume of the womb as compared to the antero-posterior diameter of the pelvis. Supposing the womb to be non-gravid, and the cavity of the pelvis of the ordinary dimension, if the displacement takes place gradually, the patient begins to feel an inconvenient sense of pressure within the pelvis; then the groins, the loins, and thighs, are affected little by little with dragging pains, which become more and more annoying. Soon after this the signs of inflammation of the womb become manifest, and the suffering more acute; the catamenia become disordered, either increasing or diminishing in quantity; a leucorrhœa, which in some instances is bloody, flows during the intervals between the menses; the digestion is deranged; the appetite is lost; the woman grows thin, and her strength diminishes. At length a fever sets in, which, in some cases, is of a high grade and of a continued type; but in others, slight, and characterized only by heat of the skin, and by agitated evenings and nights. If the cessation of the menses takes place naturally, the woman being at the change of life, the uterine deviation may cease to have any influence on the constitution; and in many, the symptoms gradually lessen, because the womb has diminished in size by losing a portion of its vital properties.

To the symptoms above mentioned, there is always added a sense of pressure or weight at the bladder and rectum, giving rise to frequent desire to urinate and go to the close stool. During the flow of the urine, the jet is soon checked or suddenly arrested, and as the displacement always increases in proportion to the efforts made to expel the urine and fæces, the symptoms are greatly augmented in

intensity by those attempts. At length a complete suppression of urine and stool is produced. In cases where the size of the womb is augmented by pregnancy or by engorgement of the organ, the symptoms are less equivocal, the constipation and suppression of urine becoming complete in a very short time: this is most likely to happen between the third and fourth months of pregnancy. However, from a case published by Smellie;* from that given us by Hunter,† and from Meckel's case, related by Voigtel,‡ the term at which a deviation is possible may be stated to be as late as the fifth month. A case is related from Barlett,§ of retroversion at the seventh month. This, and the case related by Merriman,‖ who thinks he has met with several samples of this deviation even at the end of pregnancy, were doubtless samples of posterior obliquity of the womb which have been long understood under the title of sur-pubal positions or posterior obliquity of the foetus;¶ or perhaps they were extra-uterine pregnancies with the fœtal sac pushing the womb upwards, out of reach nearly of the index finger.

Inasmuch as the long diameter of the womb, at the end of the fourth month, equals or even exceeds the antero-posterior diameter of the pelvis, it follows, not only that the displacement cannot happen after that period, but that where it has already existed for some time, the rectum, the neck of the bladder, and the urethra must be compressed; and that the womb, locked up within the excavation, and moulding itself against the resisting surfaces, becomes engorged and inflamed; thus aggravating the already dangerous symptoms of retroversion.

Where the retroversion takes place suddenly, it is almost always caused by the violent and sudden contraction of the abdominal muscles and diaphragm, such as those that occur in the act of vomiting or in the expulsion of the urine and stool; such as arise from external violence, as a fall, a blow, strong compression of the hypogaster** or a sudden fright†† causing a violent convulsive movement of the diaphragm.

It is easy to understand why the displacement of the womb is much more rapid in its progress, and followed by severer consequences, in women that are pregnant. But, inasmuch as the anteversion of the womb is exceeding rare during gestation, we must be content with adding to what has already been said, merely the characteristic signs of retroversion in pregnant females.

The causes we have mentioned as sufficient to bring about the accident in the non-gravid female, always act with greater force upon such as are pregnant. According to Hunter, Denman, Merriman,

* Treat. on Mid., vol. ii. p. 150. † Icon. Uteri Ham. Grav.

‡ Désormeaux, Dict., 21 vol., article Uterus, p. 130.

§ Bib. Med., lxxvi. p. 125.

‖ A Synopsis of Various Kinds of Difficult Parturition, p. 66 and 244.

¶ Prat. des Accouch. de Mad. Lachapelle, t. iii. p. 295.

** Désgranges of Lyons in his mémoir, which was crowned by the Acad. of Surgery, relates a case of retroversion caused by the pressure of a kettle full of wet clothes.

†† In the fourth volume of the Med. Obs. and Inquiries, Hunter gives us the history of a young woman who was attacked suddenly with the symptoms of retroversion in consequence of a great fright.

Callisen, Boer and Sibergundi, the retention of the urine in the bladder is the most common cause of the displacement in question. This symptom, which, indeed, is, in pregnancy, one of the first that announces the existence of retroversion, may be, at the same time, both a cause and an effect of the accident, and it is difficult to decide whether it be the distension of the bladder that causes the womb to see-saw backwards by raising its os uteri upwards, or whether the gravid organ, sinking by its own weight or any other cause, allows it to compress the neck of the bladder and urethra, and thus prevent the escape of the urine.

When retroversion happens in a pregnant woman, the orifice of the urethra is retracted so much behind the pubis that it becomes difficult to find the meatus, and the urethra is so forcibly pressed against the bone that it is for the most part impossible to pass up a catheter, even a flat one. The escape of the urine, which now and then takes place by regorgement, is, in most cases, completely suppressed, so that the distension of the badder may be carried even to the extent of bursting the organ, as in the samples reported by Smellie, Vandœveren and Syme.

The rectum is also so much compressed that the smallest portion of stercoraceous matter cannot escape through the intestine; and the patient is unable to receive enemata. Coincidently with these symptoms, there is found a painful tumefaction of the external genitals; and in performing the touch per vaginam, the womb is found, as we have already shown, higher up than usual; the anterior wall of the vagina being very tense, while the posterior one is relaxed, and even puckered. The contrary would obtain in case of anteversion.

The size of the womb continuing to increase with the progress of the pregnancy, the viscus is soon attacked with inflammation: the organ being now locked betwixt the sacrum and pubis, is so powerfully compressed, in some instances, that after death it cannot be extricated without dividing the pubis. (Levret.) In these dreadful cases, the inflammation extends along the peritoneum to the bladder and up to the reins, and death has followed either from these extensive inflammations, or from the rupture of the uterus itself, or the giving way of the bladder. Yet the case has been known to have a favourable termination, even where the patient has been abandoned to the powers of nature alone; the pain compelling the patient to keep her bed, the womb has reposited itself, all the symptoms disappearing, and the pregnancy has gone on to its full term. In some rare instances, abortion has taken place after the spontaneous reposition; but it generally precedes the reposition, and allows it to take place.

The augmented weight of the womb, and a certain relaxation of its ligaments being the most ordinary causes of its vertical deviations, it would seem surprising that anteversion is not like retroversion, most common in pregnant women. The explanation of the infrequency of the former and the frequency of the latter or retroverted state, is naturally found in the difference introduced by gestation into the relation of the parts. In fact, the posterior wall of the uterus, which, in the non-gravid state, is more convex than the anterior one,

really dilates in pregnancy more rapidly than the anterior face, so that the fundus uteri naturally tends to follow the heaviest portion, which drags it downwards, that is to say, backwards, unless it is stopped by impinging on the face of the sacral curve. This is the reason why one of the principal predisposing causes is a too deep concavity of the sacrum. Another anatomical arrangement, which also tends to prevent the occurrence of anteversion in pregnancy is, that the anterior face of the womb, as it becomes more and more convex, encounters the symphysis pubis, and thus has a *point d'appui*, which tends to repel the organ in a backward direction. It is easy to understand the mechanism of retroversion, and the infrequency of anteversion during gestation, by reflecting that, on the one hand, the greater weight of the posterior wall of the womb draws the organ down towards the sacrum, and that, on the other hand, the retroversion takes place only because the cavity of the sacrum is excessive, allowing the womb to be jammed into it, either by a distended urinary bladder, or by the appui of the os uteri against the symphysis of the pubis; the broad ligaments, becoming shorter and shorter, should tend to hold up the body of the womb in the excavation, but the sacro-vertebral angle hinders its rise, and compels the fundus to incline backwards, and lodge at last in the hollow of the sacrum.

[I have met with a very considerable number of cases of retroversion of the womb, and though familiarly conversant with medical affairs for more than thirty years, I have not been able to meet with more than one single decided sample of anteversion of the organ. As I do not altogether agree with our author in the views he has presented us under this head, I shall take this opportunity to express, very briefly, my own opinions upon the subject.

I should judge, from the great number of cases for which I have been consulted—cases coming to me from nearly every State in the Union—that great suffering is by many persons endured, under the idea that the patient has either a prolapsus, or an irritable uterus, or some derangement called disorder of the womb, and which is supposed to be curable by rest, or tonics, or sea-bathing; but which, in fact, can be cured only by the reposition of the dislocated organ. By inspecting the organs in *situ naturali*, on the anatomical subject, it may be clearly seen that the fundus uteri has a very free vibration backwards and forwards; and that it is only restrained from falling quite down, backwards, by the ligamenta rotunda, which, coming off from the angles of the uterus, and being inserted on the front of the pelvis, cannot permit a retroversion to take place, unless they are morbidly relaxed and extended. A woman who has a very large pelvis, and who allows her bladder to become enormously distended, will be always liable to retroversion during such distension, especially upon the occurrence of any sudden effort or succussion of the abdominal muscles—as in a fit of sneezing, coughing, or laughter. A jump from a carriage-step, or a chair, or a trip on the pavement, while the womb is pushed backwards by the full bladder, may

suddenly and even instantly jam the uterus under the promontory of the sacrum, which, introducing a tenesmic feeling, is followed by bearing down efforts, every repetition of which aggravates the mischief. If the woman be non-gravid, perhaps she will empty the bladder, and the womb, raised upwards again by its anterior cords—its round ligaments—is not suspected to have been retroverted; but, if she be pregnant at two and a half or three and a half months, and the fundus be once jammed below the promontory, it will probably remain there, even after the bladder shall have been perfectly emptied by the catheter. I have seen it remain so after the most complete evacuation of the urinary bladder, by the catheter. Let the reader think, for a moment, that, when the bladder of urine fills, it fills and distends backwards, not upwards; but it cannot contain a pint measure of urine without pushing the fundus backwards; and when the bladder can retreat no further in that direction, if the distension goes on, it rises upwards in the belly, towards the umbilicus, pushing the hypogaster outwards, whose curve is visibly augmented thereby.

Let a woman two and a half months gone, get into a stage, or rail car, having neglected to empty the bladder beforehand; if she sets off on her ride with eight or twelve ounces in the organ, and is prevented for some hours from relieving herself, she will hardly reach her journey's end without having retroversion; and when she attempts to relieve the bladder, is found to labour under a total suppression of urine, or, at least, a most painful dysury. I have seen such cases.

A woman who has the habit of permitting large accumulations to take place in the bladder, can hardly fail, in the long run, to relax and overstretch her round ligaments so much as to render them at last useless to her. I am acquainted with more than one lady, whose round ligaments are so loose and useless, that the womb falls over into the hollow of the sacrum, from the slightest effort that she makes. I have had to reposit it many times, and, in doing so, have found the fundus turned quite down to the lower third of the sacrum. I do not think the weight of the superincumbent bowels has, in general, much, if any thing, to do with producing retroversion. I look upon it rather as a case of relaxed round ligaments, and suppose that if there were any surgical means of shortening them, the womb, even one most prone to retroversion, would thereby be deprived of the liability to become retroverted; unfortunately we possess no such means. There can be little reason to doubt of the *contractility* of the round ligaments: certainly they seem, in some persons, to be at one time so relaxed as to allow the uterus to fall backwards with the greatest facility, and then they retain it for months in its natural situation; after which, they again permit the retroversion to take place again and again; to be succeeded by a period in which they are strong enough to prevent it, perhaps, during the remainder of the woman's lifetime.

In retroversion, the os tincæ is drawn upwards behind and even above the top of the symphysis pubis. This state of the os uteri is attributable

partly to the fact that the fundus, resting upon the lower portion of the sacrum, compels the other end of the organ to rise into the situation above mentioned; and this especially in such as have a gravid or otherwise enlarged womb. It should be remembered here that the pelvis, measured in an antero-posterior direction from the top of the symphysis to the lower third of the sacrum, is at least four and a half inches in length, but the womb itself is not more than three inches or three and a half inches in length. Hence, when the os uteri is forced up in the situation mentioned, it must be either because the womb is enlarged by pregnancy or by disease, or else because it is strained upwards in that direction by the contraction of its overstretched round ligaments, which are now nearly parallel with the long diameter of the organ. Women, under retroversion, do certainly feel much pain in the groins and pubis from the strain on the ligamenta rotunda. I am very sure that a person in whom these ligaments are still in a healthful and natural state of tone will be extremely unlikely to have a retroverted womb; and that, where the accident has happened, it will be only necessary to give a slight help towards the reposition to make the ligaments draw the fundus upwards and forwards again, and retain it in *sitû naturali* when once reposited.—M.]

The mechanism of anteversion of the womb is extremely simple, and so much the more easily understood as the deviation is merely an exaggeration of the natural inclination of the womb. As the fundus uteri always inclines to the front when the bladder is empty, the slight anteversion which follows the evacuation of the bladder produces no inconvenience, and is not in the least degree a morbid state, and is promptly repaired upon the filling of the bladder again. Not so, however, when the weight of the womb is increased, in consequence of an engorgement of the fundus or of its anterior wall, for then the ligamenta lata, being constantly stretched, give way by degrees, until at length, whenever the woman stands up, the fundus uteri presses itself against the bladder, whose walls are compressed together behind the symphysis pubis, while the os tincæ is pointed backwards, and presses with greater or less force upon the rectum. This displacement is farther increased by the weight of the viscera, which always rest upon the posterior paries of the womb, which now ceases to have a vertical, in order to assume a horizontal position in the pelvis.

Nevertheless, anteversion may, in some instances, take place independently of any engorgement of the womb, for the repeated efforts of a painful labour, of vomiting, of constipation, of sexual union with disproportion, and in fine, great fatigue and violent shocks, all such circumstances have been found to act as occasional causes. The morbid adhesions that take place in utero-peritoneal inflammation, may also, by the power of their retraction, cause the womb to incline forwards, and keep it immovably fixed in that position. The symptoms already described, as following in the train of uterine displacements, are not sufficient for the establishment of a clear diagnosis,

since most of them are common to both the cases, *i. e.*, the anteversion and the retroversion; and may, indeed, be met with in some cases of mere descent or prolapsion of the womb. It is only by Touching that we can ascertain both the degree and the kind of deviation that has taken place. If the patient be placed in a standing position, we may discover, with the index, a sort of tumour just within the vagina, that seems to fill up the cavity of the pelvis. This tumour is the womb itself, and it is the anterior or posterior surface that we touch, according to the nature of the deviation. In anteversion, we touch the anterior face; the fundus being diverted towards the symphysis, and the os tincæ to the sacrum. If, on the other hand, the case be one of retroversion, the womb presents its posterior surface to the touch, the fundus resting upon the lower part of the sacrum, while its orifice presses on the pubic symphysis. If we touch *per rectum*, we encounter a tumour composed of the fundus or os uteri depressing the gut. In using the catheter, which it is often difficult to do, we discover against the posterior wall of the bladder the solid and fleshy body, before detected by means of the fingers, and which gives rise to a sensation like that occasioned by the touching of a scirrhus, or of an encysted calculus in the bladder. Levret* confesses that he mistook an anteversion of the womb for a case of encysted calculus of the bladder; and he did not discover his error until after he had performed an operation for lithotomy, which was followed by the death of his patient, when, by an examination of her body, he found that she really had suffered from anteversion of the womb.

The position of the os uteri in the pelvis, as being in this or in that situation, points out the nature of the existing displacement, but its being at such or such a height in the excavation does not enable us to judge exactly as to its degree. In fact, we may, in some cases, very readily touch the os tincæ with the point of the index, although the retroversion has been carried to the extremest degree, because, as Baudelocque remarks, the cervix uteri is liable to be bent in certain cases like the neck of a retort.

A fibrous or an encysted tumour, or a pregnancy developed within the substance of the uterine paries, might be confounded with a displacement of the womb; but Touching, whether vaginal, rectal or hypogastric, ought to enable us to decide upon the existence of a double tumour in the former case or an extraordinary magnitude of the uterus in the latter. However, an inflammatory swelling of the womb might, in some cases, lead us into mistakes. Professor Désormeaux† informs us that two London physicians had mistaken the one for a morbid tumour, and the other for a simple displacement, a retroverted womb in which the fundus was affected with inflammatory swelling that deceived the English practitioners. Dr. Denman‡ also says that a tumour, and particularly a serous cyst or an acephalocyst, situated betwixt the vagina and rectum, filling up the cavity of the pelvis, depressing the gut the vagina and bladder, may be mistaken for retroversion; but if the tumour coincides with a somewhat advanced stage of pregnancy, it is quite easy to eschew all mistakes on that point,

* Journ. de Med., t. xl. p. 269.
† Dict. de Med., t. 21. p. 127.
‡ Introd. to the Pract. of Med.

because we readily learn, by means of the hypogastric Touch, that the womb contains the product of a conception: in the non-gravid state the diagnosis would be more difficult; but, as has been observed by Madame Boivin and M. Dugés, by touching the orifice of the womb, we are enabled to ascertain, by its direction and mobility, the mutual independence of the organ and the tumour, which, by the way, is not always found upon the median line, and besides, always presents lumps and asperities that are rarely to be found upon the merely deviated womb. Messrs. Bellanger and Lallemand* have related several cases of retroversion that had been mistaken for peritoneal dropsies; the abdominal distensions and fluctuation having been caused by the accumulation of urine in the bladder, whence it escaped in but very small quantities. By means of the operation of Touching and the use of the catheter, it is easy to dissipate all uncertainty in such a case, and point out the nature and situation of the fluid.

All other things being equal, the symptoms arising from retroversion are more severe than those resulting from an anteversion; but in either case, the prognosis is so much the more unfavourable as those symptoms are more decided and of longer standing, and as the womb is more or less closely compressed within the pelvic cavity.

The *treatment* of anteversion and retroversion offers for its fulfilment a variety of indications, consisting not only in the reposition of the organ and the maintenance of it in its natural situation, but also the removal of those obstacles that might render useless every attempt to reposit the womb; and further, to remedy such accidents as may have arisen from a prolonged displacement, or from antecedent attempts at reduction.

When the case of deviation is one of long standing and considerable in degree, we should, before proceeding to the reposition, try to remove the inflammatory symptoms by means of general and local blood-letting; by baths and mucilaginous injections. It has often happened that the judicious employment of antiphlogistics has made it possible to effect a reduction, in which all preceding attempts had proved so unavailing as to lead to the conclusion that reduction was impracticable. As the alvine and urinary discharges are always more or less obstructed, attention should invariably be paid to the re-establishment of a free course to both these evacuations, with a view to remove, as far as possible, every obstacle to the rise of the womb. The use of the catheter and the evacuation of the rectum, or the discharge of the urine by Baudelocque's method, which consists in raising up the os uteri, have, in many cases, been sufficent to allow the organ to resume its natural position. Where the retraction of the meatus urinæ upwards and backwards, and the flattening of the urethra should happen to render the introduction of the catheter difficult, recourse ought to be had to Ségrot's flat catheter, which may be introduced by turning its concavity backwards, and at the same time taking care to push away the os uteri where it compresses the canal of the urethra, which may be done by passing the finger upwards betwixt the symphysis pubis and the womb.

* Revue Méd., t. i. p. 191, ann. 1824.

Alarmed at the difficulties experienced in introducing the catheter in certain cases, both Syme and Dussaussoy advise that the bladder should be punctured below the pubis, and Sabatier himself has laid it down as a formal precept for cases where the catheter cannot be applied. After the bladder is emptied by either of the methods now mentioned, rest and suitable posture may suffice to enable the reduction to take place spontaneously, especially if the rectum have been emptied by means of enemata, which, unfortunately, can be done only in a few cases.

To reduce the womb, the patient should be placed in a proper position:—she ought to lie upon the back in such manner as to allow the muscles of the belly to be as much relaxed as possible; upon which, an attempt ought to be made to restore the organ to its position by drawing upon the os tincæ with the finger bent into a hook shape, whether it be turned towards the sacrum or above the top of the symphysis pubis. Should this measure fail of success, let two fingers of the left hand be carried into the rectum in order to push up the fundus with them, while with one or two fingers of the other hand passed into the vagina, we try to pull the cervix downwards. In case we cannot reach the os tincæ we should endeavour to draw it down with the spoon-shaped instrument of Mad. Boivin, or with the one which we designed for the same purpose, and which we think more convenient.—(*Vide fig.* 8, p. 68.) Should all these attempts fail of the desired success, let the woman place herself upon her knees and elbows, because, in this situation, the abdominal viscera press with less force upon the rectum, and by their own displacement, favour the rise of the womb, while the surgeon endeavours to unlock and disengage it from the cavity of the pelvis.

Should all these means prove ineffectual, we might follow the plan of Dussaussoy, formerly chirurgien-major of the Hôtel Dieu, at Lyons, which was to introduce the whole hand into the rectum* and then push up the body of the womb, which would more readily yield to this attempt, if assisted by a couple of the fingers within the vagina, and acting simultaneously upon the cervix. Should the fingers not find a sufficient hold, the surgeon ought to pass into the bladder a strong catheter, flattened at its vesical extremity, to be made use of as a lever to depress the os uteri, by acting on it from the interior of the bladder, while the fingers, introduced at the same time into the rectum, aid in elevating the fundus uteri. This is the plan adopted by Messrs. Bellanger and Lallemand. It has often happened that, in cases where all other means have failed, the womb has been disengaged by the see-saw movement effected as above described. It ought to be observed that, for the most part, the first attempt, par-

* A measure that assists considerably in the dilatation of the rectum, consists in introducing into the bowel, several times before the commencement of the attempt, a suppository of *beurre de cacao*, either simple or combined with extract of belladonna, in the proportion of one grain of the latter to twenty of the former. The use of this means, which is also very efficacious as a remedy for constipation, produced by constriction of the sphincter, facilitates the introduction of the fingers and the enlargement of the anus, while it lessens the pain arising from the distension of the bowel.

ticularly in the case of anteversion, succeeds in restoring the womb to its natural position.

[In certain cases of extreme difficulty encountered in the attempt to reduce the retroverted womb while the patient was lying upon the side or the back, I have readily effected the reposition, upon directing the woman to place herself upon her knees, with the thighs at right angles to the bed and perfectly vertical, while the top of the thorax, or rather the sternum, should be in contact with the mattress. In such a position, not only is the weight of the viscera taken off, but what is of greater consequence, the power of tenesmic resistance is wholly abolished, while the position favours, in the highest degree, the reposition of the womb. In this posture the woman cannot bear down. I consider such a position as favouring the reduction in a degree far greater than the large bleedings recommended by Dr. Dewees, who bled ad deliquium for the purpose of abolishing the tenesmic power, or the power to bear down, which he considered as one of the chief obstacles to success. In such a position the surgeon can hardly fail of success, except in cases where reduction is rendered impossible from adhesions contracted in consequence of a long chronic state of retroversion—such cases are to be held as incurable.—M.]

Where the reposition has been effected and the womb is non-gravid, all that is necessary to prevent a relapse, is to make the woman keep herself in a horizontal posture for several months, to be followed by river or sea-bathing and the use of ascending douches, composed of tonic decoctions, and especially of the sulphurous waters of Barèges. If the disorder were of a very ancient date, and should have reached a certain stage, all these means might be unavailing, and we should be compelled to have recourse to pessaries, especially the pessary *en bilboquet*, which, receiving the os uteri within the cupel, might fix it in the centre of the pelvic excavation, and compel the fundus to remain in its natural situation. Bilboquet pessaries, when well adjusted by their stems, by means of a girdle and straps, are least apt to be displaced, and are more sure to prevent a retroversion than any other pessary, which, for the most part, repel the whole organ, and keep it up, but do not so well keep it in its natural attitude.

Instead of placing a pessary in the vagina, Aspasia (Aetius, *loc. citat.*,) proceeded to the treatment of retroversion in the following manner (*at vero, aversionem versus anum ita curabimus*): She advised the midwife (*obstetrix*) to introduce a finger into the rectum and push the womb forwards. She next introduced permanently into the rectum a large bougie, (*glandem*,) of the length of four inches, to the end of which a string was attached for the purpose of extracting it readily. She then ordered oily injections for both the rectum and vagina. For the fulfilment of the indication laid down by Aspasia, *i. e.*, to keep the womb reposited, use has been made of sponges, either alone or attached to straight or curved stems, and placed in the gut, or in the vagina, as well as other means mostly inefficacious. Professor Désormeaux, with a view to attain the same end more simply and certainly, proposed the introduction of a ring-

pessary of caoutchouc to be placed behind the cervix uteri; but this plan has been used in vain by several practitioners, and, among others, by M. Nauche. The vagina-shaped pessary, denominated by M. Cloquet the elytroid pessary, or Rognetta's cylindrical one;—either of them, if provided with a cup-shaped end, cut sloping, like the one represented in our figure, appears to us best calculated to keep the womb in its natural position. If the case be one of anteversion, the salient edge of the cup should be placed betwixt the sacrum and the cervix; whereas, it ought to be placed betwixt the cervix and the posterior surface of the pubis, if the case be one of retroversion. The absence of the wall and edge of the cup upon one side of the instrument would admit of the uterus being pushed in a direction opposite to that in which the deviation might have taken place, with greater effect than could be produced by a pessary with a cup of the ordinary form, where an unbroken edge would not allow of so complete a reposition.

Fig. 19.

When anteversion takes place in consequence of inflammation and engorgement of the womb, great care should be taken in regard to the use of the pessary, inasmuch as its presence in the vagina, and immediate contact with the inflamed organ, might increase the irritation, and, consequently, the essential cause of the deviation. Under such circumstances, recourse ought to be had to antiphlogistic remedies—to small revulsive bleedings, to emollients in the form of baths, drinks, injections, cataplasms, and fomentations. These remedies persevered in for some weeks, and conjoined with the employment of narcotics, and a dorsal decubitus, upon a bed so arranged as to allow the hips to be raised somewhat higher than the trunk, are means that have often succeeded in obtaining a complete cure. The reposition, by means of a pessary, should, on the other hand, always be preferred where the sensibility of the parts is not too acute. It has often happened that the mechanical irritation produced by the instrument, has caused the total dissipation of a chronic metritis, which had been either the cause or the effect of the displacement. Levret thinks that the employment of the pessary is generally sufficient for the cure of an anteversion, but the instrument should be worn from ten to fifteen months; he adds that the leucorrhœal discharge, which is at first provoked by its presence, soon grows less, and at length disappears altogether, which is a sign of the cure. Désormeaux, who adopted Levret's views upon this point, was of opinion that the pessary is not required for so long a time, and that the vaginal inflammation resulting from its presence would determine a secretion favourable to the disengorgement of the womb, by acting on the principle of a derivative remedy. One thing is certain, that even if the pessary is incapable of effecting a perfect cure, it at least has the merit of procuring great relief in the displacements under consideration.

Where the displacement is a retroversion, prolonged to the third or fourth month of pregnancy, the womb is sometimes found to be so completely locked betwixt the sacrum and pubis, that its reduction is impossible, and the woman becomes exposed to the danger of certain death, if she be not artificially relieved. In this frightful situation, when both the mother and child are devoted to inevitable destruction, there remains a last extreme resource, first proposed by Syme and recommended by Hunter.* This last hope of safety, which, after it is resorted to, may admit of the reposition of the womb, consists in plunging a trocar into the viscus, through the vagina, so as to discharge the waters of the ovum, which are of very great volume at that stage, in comparison with the size of the fœtus. This operation, in the cases by M. Jourel of Rouen, M. Viricel of Lyons, and more recently by Mr. Baynham, under circumstances that appeared to leave no hope of saving the patients, was followed by diminution of the symptoms, brought on abortion, and preserved the lives of the mothers. Having ascertained the necessity for resorting to this extreme method, which yet offers considerable chances of safety, it should be undertaken in the following manner: The woman being properly placed, and supported by assistants, the operator should endeavour to ascertain whether the womb is most tense towards the vagina or the rectum; and then, before he plunges the trocar into the womb, he should use all proper means to reach the cavity of the organ through the os tincæ, so as to open the membranes of the ovum, as advised by White, Hamilton, Dewees and Jourel; but attempted by them in vain. To facilitate this perforation, use might be made, as Dugès advises, of a male catheter, of a conical shape, and properly curved, so as to enter the os uteri readily: or a gum elastic catheter might be preferred, the flexibility of which would favour its introduction, as it would adapt itself to all the curves and turns that might coexist with the unnatural situation of the parts. When the catheter shall have been penetrated into the cavity of the womb, a flexible style should be passed up through it, and thus easily conducted into the uterine cavity; and being pushed forwards, might serve to open the membranes.

Should the surgeon be unable to effect this purpose, the puncture should be made by a trocar passed through the substance of the vagina and one of the surfaces of the cervix or body of the uterus; for the operation done in this way is easier and less dangerous than where it is done through the rectum, since, by the latter mode, it is impossible to avoid wounding the peritoneum. Nevertheless, the puncture of the womb from the rectum succeeded in Mr. Baynham's case, after he had in vain introduced his hand into the bowel, with a view to push the womb upwards. The woman operated on by this able practitioner was in the sixth month of pregnancy, and the retroversion had existed for five weeks. The puncture having lessened the volume of the womb, the reposition was easily effected, and abortion followed soon afterwards. The fœtus, which had a wound in the abdomen, was of the ordinary size of the fœtus at the

* Med. Obs. and Inq., v. iv.

sixth month. In six weeks the woman was quite recovered. Baron Boyer (*Mal. Chirurg.*, t. x. p. 534), cites another case, treated successfully by the same method, and mentioned in the *Recueil des Thèses de la Faculté de Paris.*

For making the puncture by the rectum, the common trocar is too short. It is better to use Fleurant's trocar, designed for puncturing the bladder from the anus, the curved canula of which is about an inch longer than the common ones, which facilitates the operation very much. But whatsoever be the method adopted, the perforator should be carried pretty deep into the womb. There should be provided a long probe-pointed stilet, for the purpose of clearing the canula, in case of its becoming obstructed so as to prevent the escape of the amniotic fluid. After the operation is completed, we should proceed to reduce the womb to its natural position; and afterwards, bestow upon the patient all the cares required in cases of forced abortion, which is an almost inevitable result of the puncture of the womb.

With a view to unlock the womb, when imprisoned in the pelvis by retroversion, and to save the child without exposing the mother's life to any greater risk, different practitioners, among whom we may name Purcell, Gardien, Baumgarten and Jahn, propose, instead of the puncture, to perform the operation for the section of the symphysis; this procedure, which has never yet been had recourse to, for the cure of uterine displacement, even leaving out of question its dangerous nature and other inconveniences, does not seem to possess the advantages attributed to it by its friends, for the slight increase in the transverse diameter of the pelvis, procured by the section, gives very little addition to the antero-posterior diameter, which is the one most concerned in the locking of the womb. It is also our opinion, that, as we have it in our power to puncture either the womb or the bladder, we have no right to recur to the hypogastric incision that has been proposed, with a view of getting the hand into the pelvic cavity, for the purpose of raising up the uterus. This mode of proceeding, which is, however, less cruel than the Cæsarian operation, seems to us of very doubtful utility, for in the post-mortem examination of a woman who perished from retroversion, Hunter was unable to extricate the womb until he had sawed the pelvis asunder.

Before concluding the observations we had to offer upon the subject of the deviations of the womb, we add that, where, by the use of the measures above pointed out, we have succeeded in repositing the displaced organ, we should advise the woman always to evacuate the bladder at the first indication of desire to do so; and to take great care to obviate constipation of the bowels, especially by means of a suppository composed of the *beurre de cacao.*

The inflammatory sequelæ may be counteracted by the use of baths, venesection, and the other antiphlogistics already pointed out. The same kind of measures should be resorted to in case of the occurrence of suppression of urine, dependent upon inflammation from the pressure of the neck of the womb upon the neck of the bladder. Where the suppression of urine arises from a state of inertia, produced by

the prolonged distension of the cyst, an attempt to restore its tone might be made by means of aromatic and astringent injections, and more especially, by injections of the sulphurous Barège water. The same indication would exist in case of an ischuria or dysury from paralysis of the sphincter-vesicæ; an accident that sometimes follows the compression exerted by the os tincæ upon the bladder during a retroversion.

## OF THE ANTEFLEXION AND RETROFLEXION OR CURVATURE OF THE UTERUS.

Although we might as well have classed the anteflexion and retroflexion of the womb among the cases of lesion of *form*, as among those of lesion of *situation*, we have chosen to arrange them among cases of the last-named lesion, in order to make the study of them easier, by approximating them to the cases of anteversion and retroversion, from which they differ very little, either as regards the treatment, or in the general symptoms pertaining to them.

Though the *curvature*, or flexions of the womb, have hitherto attracted but little attention from either writers or practitioners, it was not because such cases were rarely met with, but because they were most generally confounded with other uterine disorders.

Notwithstanding that Levret, towards the middle of the last century, and Baudelocque, a few years later, had noticed that in a certain malposition of the womb, the neck inclined to the same side as the fundus, while the body of the organ is bent like a retort, we are indebted to Denman* for the first accurate account of a case of flexion of the womb, which was published, however, without any circumstantial details. Nevertheless, Denman's case, and the remarks made before his time by Levret and Baudelocque, had been almost forgotten, when a new case, communicated by Madame Boivin to Dr. Amèline, and inserted in his Thesis,† fixed the attention of the learned upon the curvatures of the uterus, disorders which, since that date, have been several times ascertained and rationally treated by different medical practitioners, among whom may be mentioned Désormeaux, Dugès and Deneux.

Where the flexion of the womb is an anteflexion, the neck preserves its natural position, but the body of the organ is inclined forwards, and engaged behind the symphysis of the pubis. In retroflexion, the viscus is displaced in the inverse direction; that is, the fundus is turned backwards and engaged in the hollow of the sacrum, notwithstanding the neck, as in the former case, preserves its natural direction.

The curvatures of the womb do not always exhibit the disposition of parts just mentioned, for some cases are met with where the body and neck are directed to the same point, or these parts are alone found to deviate, while the fundus preserves its natural situation. As this sort of flexion, so much insisted on by Boer, is almost always, when

* Introduction. 1801.

† Dissert. Inaug. Paris, 1827. No. 55.

noticed, coincident with the gravid state, we shall merely point it out at present, preferring to go more in extenso into the description of those flexions that are met with in the non-gravid state.

According to M. Dugès, flexions of the womb may be congenital; at least that distinguished practitioner met with it in girls who had not yet attained the age of puberty. Cases of the kind must be very rare. Yet we agree with Dugès and Madame Boivin, that the rapid development of the womb that occurs at about the twelfth year of the girl's age, may sufficiently explain how, in other cases, a more complete development of one wall of the organ may lead to a sort of organic incurvation. The more rapid reduction, and more complete condensation of one of the walls of the womb, after lying-in; the softening or retraction of one side of the organ, from the healing of an internal ulcer, or the cure of an inflammation; the fibrous degenerations; the adhesion of one of the parietes with the uterine appendages; an obstruction of the canal of the neck, and, according to Denman, a retention of urine, following childbirth, may act as essential causes of flexion of the womb, and particularly of retroflexion. We however believe, with the able Montpellier professor, that the last-named circumstance cannot give rise to a uterine flexion, unless connected with one of the special positions we have mentioned.

The incurvation that takes place at the point where the upper part of the neck unites with the body of the womb, exhibits a variable curvature, so that the organ which is, in some cases, bent double, as it were, is found in others to exhibit an angle more or less obtuse. The curvature is always somewhat rigid; and in rare cases, especially soon after delivery, the body of the womb is observed to be movable upon the neck, as pointed out in the case of retroflexion published by Denman.

The general signs of anteflexion and retroflexion are nearly the same as those of anteversion and retroversion; for example, the patient complains of pain in the lumbar and hypogastric regions, difficulty in the expulsion of urine and stool, and all the consecutive sympathetic affections appropriate to the other forms of uterine deviations; such as leucorrhœa, amenorrhœa, dysmenorrhœa, hysterical and spasmodic symptoms; dragging sensations in the pelvis, the groin, the loins and the thighs; frequent desire to pass the urine; and lastly, a feeling of painful pressure upon the bladder and rectum, &c.

Although it is very difficult clearly to establish the differences between the curvatures of the womb and anteversion and retroversion of the organ, it is yet possible, with an attentive exploration of the parts, to avoid confounding them with each other.

Previously to making any examination whatever, it is best to cause the bladder and rectum to be freed from their contents. The surgeon should then perform the operation of Touching; first, while the woman is in a standing posture, and then while she is lying down; in the same position as if she were placed for the adjustment of the speculum uteri. The right index should be placed within the vagina, while the left hand is applied to the hypogastrium for the purpose of rendering, by pressure downwards, the body and cervix of the womb

more accessible to the point of the index. The surgeon will endeavour, by gentle pressure, to learn whether the fundus of the organ is in its natural state or not while the neck only is bent; or whether the latter is in a natural position, the former alone having deviated from it. The latter sort of flexion is much more common than the former, which is less rare than the double flexion of the cervix and fundus in the same direction.

To enable us to judge methodically of the size of the curve formed by the womb, the viscus ought to be firmly compressed by the left hand applied to the hypogastrium, while, with the index of the right hand, we endeavour carefully to trace the arc described by the flexion of the uterus, tracing the left side of it with the right index, and the right side of it with the left index finger, according as we use one or the other hand for the purpose.

To render the diagnosis as complete as possible, and make sure whether or no there have been formed any adhesions rendering a cure impossible, we should try to move the womb in different directions, and if any doubt or obscurity should still remain upon this or any other point, an examination by the rectum should be made; either in the common mode, or as advised by M. Dugès—by introducing the index into the rectum, and the thumb into the vagina, so as to support the womb between the thumb and the finger, and thus form a sort of *intelligent* calliper, well suited to show the curvature, the size and position of the organ. This manœuvre is generally very easily performed for women who are thin, and accustomed to the coitus; and in lymphatic girls, whose vaginal parietes have become relaxed by chronic leucorrhœa.

While sterility may, on the one hand, depend upon a uterine curvature, so a pregnancy, on the other hand, may bring about a speedy and definitive cure; for the forced distension of the strangulated point that divides the cervix and the body of the uterus, will sometimes rectify its direction, where care is taken in the early months of gestation to keep it in a proper position; and, especially, by guarding against the accidents that act as the special causes of uterine displacements. To prevent a relapse, as soon as the delivery is completed, we should hasten to procure a perfect contraction of the womb, now restored to its natural situation, by means of frictions upon the hypogastrium, and by preventing too great an accumulation of urine in the bladder, or of fæces in the rectum. A relapse may also be prevented by ordering a dorsal decubitus, in case it be an anteflexion; and by directing the patient to lie upon her side, or as far over into a prone position as possible, in case we have to contend with the retroflective curvature. But whatever be the nature of the curve, the woman should be so situated upon her bed as to have the pelvis higher than the shoulders.

The *treatment* of flexions of the womb differs very little from that of the anteversion and retroversion of the viscus; for the symptoms arising from them are to be combated by the same general measures. Thus, where there are symptoms of congestion, of plethora, or of phlogosis, resort should be had, in the first place, to

baths, to blood-letting, and to other antiphlogistics, according to the kind of indication; and then, after effecting the mechanical reduction of the womb, it is to be kept in its proper position, either by M. Dereux's method, which consists in pressing a sponge betwixt the cervix and vagina, opposite to the curve; or in adjusting, in the same situation, a ring-pessary of gum-elastic or ivory, which is to be merely introduced; or, according to Désormeaux's advice, to be so adjusted that the upper portion of the instrument should sustain the raised fundus, while the opening is large enough to receive the curved extremity of the neck of the womb. We might also do as advised by M. Nauche; namely, make use of a pessary *en bondon*, so constructed that one of its margins may rise highest on the curved side. The application of a cylindrical pessary, modified according to our plan, as a remedy for both anteversion and retroversion, would fulfil this indication still better; but, unfortunately, curvatures of ancient date are very difficult to cure by means of the mechanical remedies within our control.

The symptoms produced by uterine curvatures might also be advantageously combated, and the powers of the other remedies increased by assisting them by the exhibition of stimulants, derivatives and tonics, such as douches of Barèges waters, directed into the vagina and rectum; frictions, blisters, cauteries, and moxas applied, in the cases of retroflexion, to the groins and pubis; and, in those of anteflexion, to the sacrum and the parts adjacent to the utero-sacral ligaments.

Let us conclude our remarks upon the uterine curvatures by adding, that Madame Boivin and M. Dugès are the only authors who have furnished detailed cases of anteflexion and retroflexion, either in the virgin or in women at various stages of gestation, after childbirth, or as one of the sequelæ of abortion. Were it not that we have already been too diffuse on this subject, we should have cited in this place the interesting facts reported in the excellent work of the able practitioners whose names we have just quoted.

## OF INCLINATION, AND OF OBLIQUITY OF THE WOMB.

Inasmuch as the uterus rarely preserves its vertical position, when in the non-gravid state, it is easy to infer that its long axis may deviate every moment, where pregnancy is sufficiently far advanced to allow the body of the viscus to lift itself above the plane of the superior strait. Where the inclination is but slight, no inconvenience is experienced from it; but, if the fundus of the womb ceases to be mobile, and remains constantly leaning to either of the sides, such an obliquity constitutes a real malady of the womb, which may lead to very serious consequences.

The works of the father of medicine contain several passages to prove that his attention had been attracted to the inclinations of the womb. In fact, the lateral inclination, or latero-version, seems to us to be clearly pointed out in the passage of the book: Περι γυναικειης φυσιος, (*de natura mulier.*) where he says, "If the *womb bears over*

*towards the iliac region, the belly and the sides become painful; and, when we Touch, we find the neck of the womb inclined towards one of the iliac regions.*" Aetius* also speaks of the inclination of the womb; and, in explaining the doctrines of Aspasia upon this point, he adds that this deviation may furnish obstacles in the way of childbirth: *potest et difficultas pariendi contingere, ab cervicis uteri obliquitatem.* However, the obliquities of the womb did not begin to fix the attention of practitioners of medicine until Henry Deventer,† a celebrated accoucheur at Groningen, had proved that this affection is among the principal causes of difficult labour, and moreover pointed out the manœuvre required by cases of the sort.

Where the womb is found to be inclined forwards, or backwards, it constitutes nothing more or less than the first stage of anteversion or retroversion; when it is to one side, it is a *latero-version*, and in such a state, the neck of the womb, which rises higher than its natural level, inclines its orifice towards one of the sides of the vagina, and the patient feels in various degrees the symptoms that proceed from anteversion.

The inclinations occurring during pregnancy have received from Deventer the appellation of obliquity of the womb. As they can only take place to one side or to the front, they are distinguished into right lateral, left lateral and anterior obliquity; a posterior obliquity, notwithstanding Levret's opinion on the subject, could not take place in a well-formed woman, since it is prevented by the sacro-vertebral projection.

Obliquities may be ascertained to exist by the projection, and resistance of the fundus uteri against the abdominal walls. In the anterior obliquity, the upper extremity of the gestative organ is directed forwards, and the os uteri against the sacrum. The inclination is greater in proportion to the number of preceding pregnancies, and it is found to increase with each successive one.

In some women, the anterior obliquity is found to be so great, that the belly falls down over the external organs of generation, and sometimes so low as to cover the thighs even down to the knees.

In lateral obliquity the fundus forms a prominence at one side of the abdomen, the os uteri being pointed towards the opposite side. The anterior inclination is the one most frequently met with; it may depend upon the relaxation of the walls of the abdomen, upon deformity of the vertebral column, the accumulation of a quantity of fæces in the colon, or any other cause compelling the womb to incline itself forwards.

The right lateral obliquity is also pretty frequent, while a left obliquity is quite rare, for the rectum and the sigma of the colon, that are often distended with fæces, prevent the womb from inclining to that side. Besides the faulty direction of the pelvis, lateral obliquity has been assigned to a variety of causes, such as shortness of one of the ligaments of the womb, a relaxation of one side and constriction

* Tetrab. iv., Serm. iv. cap. 77.

† Novum Sumen Obstetricantium, 1701, et ulterius: examen. partuum difficultium, 1725.

of the opposite one, in consequence of inflammation or spasm, the habit of sleeping always on one side, particularly the right side; and, finally, the existence of a considerable tumour in the abdomen or in one of the ovaries. Levret, and most of the accoucheurs, supposed obliquity of the womb to depend upon an attachment of the placenta upon one side of the uterus that was drawn downwards, by means of the weight of the afterbirth. Were this the real cause, the placenta would be more frequently found upon the right than upon the left side, and in front more frequently than on the posterior surface, which is not the fact; though right lateral obliquity takes place in ninety-nine cases in a hundred, while posterior obliquity is looked upon as nearly an impossible state in a healthy conformation of the pelvis and vertebral column.

[I do not like to let this assertion of our author go forth without protesting against it, as being unfounded in observation. In my own experience, left lateral obliquity is not less frequently met with than that of the right side; and as to the insertion of the placenta, no man knows the facts as to its place in the general. No man can have such knowledge, since, of the immense number of labours that are superintended by medical men, in a vast majority of them the placenta is detached by the time the hips of the child are expelled, or, in other words, by the same contraction that effects the expulsion of the fœtus. Medical men do not know, therefore, where the afterbirth is attached, except in those cases that require the introduction of the hand for its delivery. According to Dr. Churchill, (see Huston's edit., 420,) retention of the placenta has occurred once in $661\frac{1}{3}$ times, which gives too few opportunities to admit of the attainment of a correct knowledge of its average place of attachment. I take it for granted that practitioners do not *go after the placenta*, except under a necessity for so doing; and that when the placenta presents itself at, or half through the os uteri, immediately after the birth of the child, the attendant is not competent to say that it was in this or that special place.—M.]

While the inclinations of the womb that take place in its non-gravid state are but little worthy of our regard, those that occur during gestation are of real importance. According to Deventer, they may be classed with the most fruitful causes of difficult parturition. Even admitting that this opinion of Deventer's is a somewhat exaggerated one, it is easy to conceive why obliquity may not unfrequently occasion great difficulty and delay in the termination of a labour, by reflecting that when the mouth of the womb is impelled against one of the sides of the pelvis, the expulsive powers cannot act in the direction of the vagina, and, of course, that the dilatation will not take place, except with difficulty and slowness. Where the pelvis is wide, it often happens that the descending head pushes the body of the womb down before it, so that it comes to present itself at the ostium vaginæ, while the os tincæ is forcibly driven backwards: on the other hand, where the pelvis is narrow, the womb is not thrust downwards by the head, but the throes that tend to impel the head

forwards while it is still enclosed in the cervix uteri may give rise to contusions of the part, to violent distensions, and even expose the uterus to the danger of becoming inflamed, or of being lacerated, if the obliquity be not speedily rectified.

Those inclinations that take place in the non-gravid womb require no special treatment, for the inconvenience resulting from an extreme obliquation are to be readily remedied by means of a suspensory bandage to the abdomen. But for the use of such a precaution the woman would suffer, especially towards the close of pregnancy, from severe pain about the groins and loins, and a sort of numbness upon the side, corresponding with the obliquity.

As a measure for obviating barrenness, which might arise from a continued obliquity of the womb, the female ought to lie upon the side opposed to the inclination of the cervix, *durante coitû;* and the same precaution should be taken in the conduct of the labour. We should endeavour to bring the fundus of the womb towards the centre of the abdominal cavity, by supporting and pressing the uterus, with a hand laid upon the abdomen. Until this can be done, the woman ought to be dissuaded from bearing down. If such measures were to prove insufficient to replace the cervix in the middle of the excavation, success in the attempt is commonly attainable by the use of two of the fingers hooked within the orifice, and kept there until it be pretty well dilated, and the bag of waters formed. By these means, which are equally simple and easy of performance, the patient may be spared many pains, while the favourable position given to the cervix uteri admits of its easier dilatation, and a considerable abridgment of the duration of the labour. In the majority of such cases, a venesection will be found to be indicated, particularly if the manœuvre here recommended should not have been put in practice.

## OF INVERSION OF THE WOMB.

Inversion is a case in which the womb is turned inside out, either completely or partially, like a bag, or a glove-finger, so that its internal surface becomes external, and *vice versâ.*

Inversio-uteri, which may take place either while the womb is in a state of vacuity or during parturition, exhibits several degrees or stages, from the very slightest depression of the fundus to the complete turning of the womb inside out, so that the body of the viscus hangs out betwixt the thighs. Daillez, Levret, and most of the writers on the subject, have admitted but two varieties of this case, which are the incomplete or partial inversion, and the complete inversion. The former is when the fundus has fallen down towards the orifice and projects a little into the vagina; the latter, or the complete inversion, is when the womb is turned entirely inside out, and lies in the canal of the vagina, or escapes quite beyond the orifice of the vulva.

Leroux, of Dijon, establishes three degrees of inversion. 1. A simple depression which takes place when the top of the womb is

somewhat indented like the bottom of a glass bottle, as Mauriceau expresses it. 2. The incomplete inversion. 3. The complete inversion, already mentioned, and which seems to be intended by Hippocrates, when he says *si pudendo exciderint uteri, dependent velut scrotum.*

Finally, Sauvages, who, like ourselves, classes the inversion among the lesions of situation, and arranges it as a species of the genus *Hysteroptosis;* Professor Delpech;* Dr. Ferrand, in his excellent Thesis;† Madame Boivin and M. Dugès,‡ admit of principal degrees of this affection, which exhibit distinctive characters, as well in regard to the diagnosis as to the prognosis and treatment. These four degrees may remain stationary, others may be progressive, and increase either gradually or instantly in violence. In the first degree, there is simple depression of the fundus uteri: in the second, the inverted fundus disparts the os uteri a little—in the third, the inverted organ is lodged in the vagina, but the vaginal orifice of the womb has not participated in the inversion, and lastly, in the fourth degree, the rarest of all, the womb, turned inside out, forms a considerable tumour, which may be augmented inside by the presence within it of the ligaments of the womb, and by a portion of the intestines which are ingurgitated in the new cavity formed by the inverted organ. The mechanism of an inversion of the womb is very easy to be understood. The fundus of the organ, which is carried downwards by whatever cause, is depressed so as to become convex within instead of concave, as in its natural state. This depression increases by insensible degrees, and passes with more or less haste through the different stages of inversion. As the internal face sinks lower and lower, it drags with it the ligamenta lata and ligamenta rotunda, the ovaries, and the tubes, which, as we have before said, take the place that becomes void in the pelvis. Inasmuch as the womb, immediately after labour, is in a condition most favourable to the occurrence of an inversion, that, in fact, is the crisis at which such an event is most likely to happen; for it never could happen except in consequence of a distension of the walls of the womb, caused either by the presence within it of an ovum, a polypus, or a mole, or the accumulation of a quantity of the serum of the blood within its walls.

The most common cause of inversion consists in attempts to deliver the placenta immediately after the birth of the child and before the womb has become contracted. 2. Too powerful efforts, of traction upon the cord while the placenta is still attached to the womb, and the pressure of the intestines upon the fundus at the same time. 3. The prolonged efforts at bearing down that some women make after the birth of the child, with a view more speedily to expel the placenta. 4. The spontaneous violent extraction of the placenta, as happens when women are delivered in a standing posture, which often causes the sudden and simultaneous escape of the entire pro-

* Précis des Malad. Reputées Chir., iii. p. 576.
† Du Renvérsement de la Matrice. diss Maury. Paris, 1828. No. 278.
‡ Traité Prat. des Mal. de Utérus, t. i. 221, 1833.

duct of the conception, particularly if the umbilical cord happens to be too short or twisted round the child's neck or body. Under such circumstances, should the placenta be adherent, and fail to become detached, or should the cord not break, an inversion would be the almost inevitable consequence.

Inversion of the womb is not always due to the imprudence of the attendant, or to the unfavourable circumstances by which the patient is surrounded during her parturition: there are some cases, certainly rare ones, and which it is not possible to foresee, where inversion occurs, so to speak, spontaneously, and without any external force having been employed to pull upon the internal paries of the womb.

The women most liable to these spontaneous inversions, as they may be termed, are such as have the womb distended with a great quantity of water up to the last moments of the labour; such as lie in almost without pain, and with a single bearing down effort; cases where both the child and the afterbirth are very large; and lastly, such as have become exhausted by long-protracted sufferings. All the circumstances which may become occasional causes of inertia uteri, and which make the patient liable to flooding after delivery, are also to be regarded as so many predisposing causes of the affection under consideration. To the predisposing causes we may add the antecedent occurrence of an inversion in labour, though promptly relieved; a chronic state of prolapsion of the vagina and womb, and a certain laxity of these organs attributed to persons of a lymphatic temperament. It happens, in certain instances of this sort, that the softness and flaccidity of the uterus are so great, that even after a careful delivery, the mere pressure of the superincumbent bowels on the fundus uteri causes it to be inverted without any traction having been made upon the cord. It is easy to conceive the possibility of an inversion, caused by the weight of the bowels pressing upon the summit of the organ, if we reflect that the impulse may be very sudden and violent, as from the contraction of the diaphragm and abdominal muscles in coughing, sneezing, vomiting or imprudent movements of the patient.

Notwithstanding inversion of the womb would appear, in a manner, to be impossible, except immediately subsequent to the escape of the fœtus from its cavity, which is the period when the viscus is most expanded and most flexible; both Ané and Baudelocque* bear witness to its having occurred upon the third day, and Leblanc† on the tenth day after delivery. Professor Désormeaux‡ reports that he was consulted for the case of a woman in whom there was an incomplete inversion, which was not detected until twenty-one days after the childbirth.

[I have seen a case in this city in which the occurrence was not verified

* Diss. inaug. du Dr. Daillez, 1803.

† Sabatier, Mem. sur les Deplacements de l'Uterus.

‡ Dict. de Med., 21 vol. t. xviii., p. 227.

until thirty days after labour, and another in which eighteen months elapsed before the fact was ascertained.—M.]

We opine that complete inversion, discovered so late, must have existed, in an incomplete stage, beforehand; and that commonly they must have commenced immediately after delivery. Were this not the case, the womb, doubtless, must have continued distended with coagula, and thus have retained the same volume and flaccidness as belong to it after the sudden expulsion of the ovum.

Inasmuch as an antecedent dilatation and softness of the uterine parietes are the prime conditions for a possible inversion, it is apparent that a lying-in is not the sole predisponent cause of the accident; in fact, an inversion may take place, not only long subsequent to childbirth, but even in women who have never borne children. For example, inversion has been observed to follow immediately upon the expulsion of a large polypus, or upon tractile efforts made upon such a tumour, where its pedicle has been implanted in the fundus, which has been drawn down by the footstalk, into the vagina. Goullard,* Cullerier† and Denman‡ report cases occurring in this way.

This affection may also arise from a distension of the womb, caused by a dropsy, or an accumulation of blood in the organ,§ whose walls being relaxed, thinned and weakened, yield readily to the impulsion of the bowels, and the contractions of the abdominal muscles, as soon as the foreign substances have suddenly escaped from its cavity. All these circumstances may, to a certain extent, be compared with those existing at the period of delivery in childbirth; for the walls of the womb being then nearly in the same condition as in parturition, yield to the slightest impulses, or the least effort. However, Puzos, who, as well as Vigaroux, looked upon excessive obesity as an exciting cause of inversion, read at the Academy a memoir, a mere extract of which only remains at the present day,‖ wherein he relates several cases of inversion observed by himself in females who had never borne children, or who had never experienced any indisposition during fifteen or twenty years subsequent to their last confinement. Notwithstanding the authority of these two great practitioners, we agree with Gardien and Désormeaux, that it is not to be supposed that in the cases mentioned by Puzos, the cause of the accident could have been merely the obesity and the weight of the bowels resting on the womb so long non-gravid. Boyer¶ cites a similar example from a female who had had no child for fifteen years, and whose womb certainly contained no foreign body. As the inversion in this case was not complete, and it being probable that the same was the fact in Puzos' cases, we must conclude that the affection was of a very ancient date, and remained undetected for a number of years, because the fundus of the womb

* Mem. de l'Acad. des Sci., 1732, and Mem. de l'Acad. de Chir., t. iii., p. 377.
† Nauche, Malad. des Femmes., t. i., p. 133.
‡ Plates of a Polypus with an Inversion of the Uterus, 1801.
§ Leblanc d'Orleans; Mem. de l'Acad. de Chirurg., iii., 379.
‖ Inserted in le Mércure de France, ann. 1744.
¶ Traité des Mal. Chirurg.

being but slightly depressed, particularly at the period of the last confinement, the patient's health was undisturbed up to the time when the inversion, by a gradual progress, had attained to a greater degree of completeness. What tends, moreover, to militate in favour of this hypothesis is, that the records of the science contain numerous cases of women who have continued in tolerable health during many years, under inversion of the womb, even when absolutely complete. Thus, Délamotte* says he knew a woman who had had a complete inversion for thirty years; Levret,† in a woman sixty years of age, found an enormous tumour constituted of the inverted womb and vagina, the ovaries, the tubes, with a portion of the rectum, and of the bladder and small intestines. Dr. Daillez‡ states that Baudelocque met with an inverted womb in the case of a young girl fifteen years old, and he adds, that it could not have been in consequence of a clandestine delivery, because the hymen was perfect. This peculiarity seemed to Baudelocque so extraordinary that he looked upon it as the result of a congenital deformity, for he could not be persuaded, and very properly so, that the organ could be the subject of an inversion without any antecedent dilatation. Baron Dubois supposed that the celebrated author might have been led into error by a polypus uteri. As we do not think it possible for Baudelocque to make such a mistake in diagnosis, though such mistakes are not wanting, we conceive it possible that the inversion he met with, in the young girl, might have taken place, in consequence of the distension of the parietes of the womb, produced by a retention of the menses, the accumulation of serum, or the extrication of gases in the organ, and subsequently expelled suddenly. In fine, we may add to the above, the case recently noticed by M. Dugès,§ who informs us of a lady whom he saw in consultation with the Messrs. Dubois, sen. and jun., who laboured for five years under an inversion of the womb, without suffering any inconvenience beyond a sense of dragging weight about the groins and loins, and frequent desire to pass the urine, but which went off as soon as she laid herself down.

Previous to closing our remarks upon the causes of inversion, let us add that Dessault and Herbiniaux proposed that inversion should be temporarily induced in the case of polypus of large size, by drawing it downwards, with a view of enabling the operator to adjust a ligature more easily upon the neck of the tumour. According to Désormeaux, this plan was executed successfully, not only by the two distinguished practitioners, but by several other operators.

The *symptoms* of the affection in question are different, according to the degree in which it happens to exist, the circumstances which accompanied the accident, and the fact of it having occurred suddenly or by degrees.

A mere depression of the fundus of the womb generally lasts but a

* Observ. 412.
† Obs. sur les Polypes de la Matrice, p. 140.
‡ Précis des Léçons de Baudelocque, sur le Renversement de la Matrice, 1803.
§ Traité des Mal. de l'Utérus, t. i. p. 245.

short time; it is either soon followed by the reposition of the organ, or by its rapid transition to a further degree of inversion. This slight uterine inversion, which constitutes the first stage, may be discovered by the painful sense of dragging that the woman complains of, when tractions are made at the cord of a still adhering placenta, or by the cup, like the bottom of a bottle, that may be felt through the abdominal teguments by placing the hand upon the hypogaster; in such case it is of the highest moment, not only to desist from pulling at the cord, but, moreover, to command the woman to abstain from every attempt to bear down, which would, without promoting the delivery of the afterbirth, inevitably increase the inversion. We ought here to try to detach the placenta, by introducing a hand into the womb, taking care to act from the circumference to the centre of the afterbirth, and to restore to the uterus its proper form, by pushing up the fundus, while gentle tractions at the cord, with the other hand, enable us to conclude the delivery.

The signs and symptoms of inversion in the second, are analogous to those of the first stage, and differ from them only as being more evident, and attended with severer pain. Where the inversion has continued for some time after delivery, the diagnosis becomes rather obscure, because the mouth of the womb surrounds the summit of the tumour, just as it does in the case of polypus; though, in this condition, the summit of the tumour formed by the inverted fundus descends so low as to press open the os uteri, the finger can only touch a convex surface whose nature is equivocal, and around which it is impossible to penetrate in order to feel and explore it. Nothing, therefore, except the surpubal palpation, and the Touch by the rectum, can remove the obscurity of the case. In the third stage, the Touch by the rectum and hypogastrium furnishes more positive data than can be got in the second stage of inversion. We can here readily ascertain that the womb has abandoned its natural position, if, as should always be done, we take care beforehand to cause the bladder and rectum to be evacuated, and to place the abdominal muscles in the greatest possible relaxation. The womb is found to be lodged within the vagina, as a distinct tumour, and, as it were, strangulated by the os uteri, which alone, of all parts of the organ, has escaped the act of inversion. Continual hæmorrhages, exhausting to the patient, have often led to the suspicion that the tumour composed of the inverted uterus was nothing more than a polypus adhering to the fundus uteri. Such a mistake as this is easily avoided, by observing that the neck or pedicle of a polypus is narrower and more elongated than that observed in inversion, in which we have a tumour larger below than above, more or less reducible, and possessing a lively sensibility; the polypus, on the contrary, has very little sensibility to the touch, and is irreducible. It is true that, in either case, the os uteri forms a sort of ring round the root of the tumour, but this ring is less salient in the case of inversion, and does not admit of the passage of the finger or of a sound more than a few lines upwards to its cul-de-sac; while, should the ring embrace only the neck of a polypus, the sound could be made to pass far upwards without difficulty. Further, when the

tumour is a polypus, the fundus of the womb may be felt above the top of the pubis, in many cases, especially in emaciated or thin persons—unless, indeed, by the weight of the polypus, the womb should be dragged down into the bottom of the pelvis. In fine, to avoid confounding together an inversion and a prolapsion of the womb, in which there are symptoms common to both of them, such as the dragging weight at the groins and the back, &c., it should be remembered that in prolapsus there is no ring formed by the os uteri like that in inversion; and that whereas, in the latter case, the tumour is pear-shaped, as it is in the former, the contracted part is above and the largest part below, while the contrary obtains in the case of hysteroptosis.

It is far easier to recognize inversion of the womb when in the fourth stage. The tumour, which, for the most part, projects beyond the vulva, is generally larger than in the other stages, although still partially reducible, and is covered with dark-looking bloody excretion, especially when the inversion is a recent accident. In this condition it is found to increase and diminish in size alternately, accordingly as it happens to contain portions of the intestinal convolutions or not, since they are occasionally present within the tumour, and then withdrawn from it. When it remains partly within the vagina, the finger introduced into the vagina, betwixt it and the tumour, always encounters a cul-de-sac, situated at an elevation different in different subjects, and preceded by a sort of ring marked in relief at the most constricted part of the tumour; and, lastly, by touching the hypogastrium, we ascertain that the womb has completely abandoned its natural situation.

Generally speaking, where inversion is about commencing, or in its first or second stage, it is signified by a hæmorrhage, if it follows a labour, and by an increased menstruation and leucorrhœal discharge where it takes place under other circumstances. To these symptoms are added violent pain and draggings at the groins and back, with a feeling of weight within the pelvis. The same symptoms are more strongly marked in the two last stages, to such a degree, indeed, that the flooding, which is, particularly in the third stage, the principal symptom, becomes so violent as to prove rapidly fatal. There are lacerating pains felt, accompanied with syncope, that are generally mitigated by pressing the womb upwards into the vagina, though they are sometimes observed to increase during attempts at reduction. Lastly, inflammation and gangrene, which not rarely attack the inverted portion of the womb, are especially to be feared where the organ is pendulous outside of the genital fissure.

Inversion of the womb is a dangerous accident, that may prove speedily mortal, provided there be the least delay in attending to the reposition of the organ, and the sooner after parturition it occurs, the more dangerous it is to be esteemed. Notwithstanding some women have been known to live very long although affected even with a complete inversion, unreduced, it generally happens that the few who do survive, draw out a miserable existence, and perish at last, being exhausted by profuse leucorrhœa and repeated attacks of

flooding. The reposition of the inverted organ, which offers the sole chance of cure, and which is generally quite easy of accomplishment, when undertaken immediately after the accident, becomes more and more difficult the longer it is deferred, and often becomes wholly impossible. However, there are several examples, going to show that the reposition has been successfully performed as late as the fifth day, the eighth day, and even much later. Dr. Daillez reports, in his dissertation, that the surgeon Labarre de Benzeville had effected the reduction as late as the eighth month; and Baudelocque after eight years. Gardien refers to the last-named author, for an instance in the wife of a vine-dresser at Ruel, where the womb was reduced eight days after the labour, by M. Ané. Moreover, the organ, after having been long inverted, has been seen to reduce itself spontaneously, in consequence of a violent accidental shock; and, from a letter by Laroux, addressed to Louis, which is mentioned in *Daillez' Thesis*, the spontaneous reposition of the womb has been known to take place two months after the occurrence of the accident.

[I take occasion here to offer some remarks upon spontaneous reposition of the womb after inversion, since I have been very deeply interested in the subject, from having met with two cases of the accident, in which the womb not only recovered spontaneously, but in which the woman became afterwards pregnant. This statement appears so extraordinary, when unsupported by the cases cited by our author in the foregoing passages, that I might justly deem it an imprudence to make a statement of them were it supported by my sole authority.

I shall begin by remarking that a very complete inversion of the womb is not, if it be early reposited, to be considered as obviating the liability of the patient to a subsequent conception. This I can clearly aver upon the facts in the case, published by me in the *Phil. Pract. of Mid.*, 2d edit., p. 356, where the case, as seen by the late Dr. James, Professor of Midwifery in the University of Pennsylvania, by Dr. George Fox, of this city, and by myself, is given at large. In that case the inversion was produced by violent and most painful tractions at the cord by an ignorant midwife, who supposed, after she had drawn the womb entirely forth of the patient's body, that the huge mass consisted of some unnatural state of the placenta, which, in fact, was adherent to it. The midwife, even after the womb was withdrawn and hanging between the thighs of the woman, made violent efforts to pull it away from her, and only desisted in consequence of her screams, and the apparent approach of death.

I reposited this womb, not by compressing the organ between my hands, as it is usually directed to be done, but by waiting until the contraction or after-pain had ceased, and then indenting the fundus with a finger, like the bottom of a bottle, and suddenly pushing the cone upwards to the os uteri, and so into the belly again. This patient was as nearly dead from hæmorrhage as any woman I have seen recover from flooding. Upon the re-establishment of her health she bore children, and in two instances was delivered

by my friend and colleague, Professor F. Bache, of Jefferson Medical College.

I mention these circumstances in order to show that the extremest degree of inversion—none could be more complete—is not necessarily the cause of lesions to the ovaries, tubes and other organs connected with reproduction, so great as to deprive them ever afterwards of the reproductive power.

I saw, a few years since, a female in this city, who had been the subject of an inversion of the womb for about two years. This took place at the time of her confinement, when she had a very profuse hæmorrhage, so as to be supposed to be in danger of a fatal result. Her health gradually improved, but she remained subject to frequent attacks of hæmorrhage, by which her strength became again much reduced. At length, a physician, who was called in, detected the existence of inversion of the womb, and invited me to examine the case and verify the diagnosis. I found the womb projecting into the vagina, and I believe it to have been, at the time, completely inverted. It was not much larger than the non-gravid womb, bled readily from pressure at the time, and was not very sensible to touch, as indeed the healthy uterus is not.

In this case I made the most careful attempt to discriminate between polypus and inversio-uteri, and I remained under the absolute conviction, as did the physician, Dr. Moehring, a highly capable practitioner, that the case was one not of polypus, but of inversion. I gave such a prognosis as I deemed reasonable, but added to it the opinion that she would never again be subject to conception. This female was subsequently examined with care by Professor Hodge, of the University of Pennsylvania, with the same diagnostic result; and later by Dr. Warrington, of this city, well known as a teacher and practitioner of obstetrics. These gentlemen all agree that the case was one of inversion, and the attempts made by myself and by them, to reposit the organ were without the least success. Nevertheless, after some four years posterior to the period of my visit to her, she became pregnant, and miscarried of an embryo of more than three months, under the care of Dr. Warrington, who received the embryo, and who feels as much surprised as I do at the circumstance. I may take the occasion to say that Dr. Hodge and Dr. Warrington have assured me of their convictions of the correctness of their diagnosis in the case, and I may add, that I have not the least doubt of its correctness, for I do not think I could make so gross a mistake where my careful attention had been given to the formation of a correct opinion. Far less can I suppose that the other gentlemen could be equally mistaken.

May 5th, 1841.—I saw, in company with Dr. Levis, of the city, Mrs. S., aged twenty-seven years. She has two children, the youngest born five weeks ago. Dr. L. informed me that the child was expelled before he reached her dwelling. Upon arriving there, he found her lying upon her back, near the edge of the bed, the feet resting upon chairs, as if she had hardly found time to get upon the bed before the escape of the fœtus, which an attendant was then holding up in her hands, in order to keep it out of

the great pool of blood collected about the hips of the patient. The child's head, indeed, was quite born before the lady could rise from the pot-de-chambre, on which she had placed herself. Dr. L. removed the placenta from the vagina, having found the womb contracted.

After the delivery, she flooded a good deal, but, in a fortnight, was much recovered. Subsequently to this period, she was seized with flooding of a severe character, since which she has not been free from bloody discharges, which are occasionally quite copious. Two days ago, the doctor examined his patient, and found a tumour projecting from the os uteri, which he suspected to depend upon inversion of the organ. She is now very feeble, is bleeding, and has frequent fits of hysterical delirium.

Upon Touching per vaginam, and upon inquiry made by means of the speculum, and even by disparting the labia with two fingers of each hand, it was easy to discover a tumour which bore so great a resemblance to an uterine polypus that it was difficult, viewing its size, form, colour and resistance, to believe that it was not a polypus which had existed throughout the gestation; an idea which yet could not be very reasonably indulged, seeing she had gone through a healthful pregnancy to full term; though I admit its possibility in certain cases. As the parts, as well as her whole frame, were very much relaxed, I introduced half of my right hand into the vagina, behind the tumour, so as to enable me to carry two fingers quite far up into the cul-de-sac, behind the cervix uteri, which was not inverted. Having thus possession of the canal, I carried the two fingers forcibly upwards and forwards, so near to the margin of the superior strait, just behind the symphysis pubis, that the fingers of my left hand, pressed forcibly upon the lower part of the hypogastrium, were but a very small distance from those of the right hand within the vagina. They approached so near to each other that I remained perfectly convinced that no womb was interposed betwixt them, and that the tumour within the vagina consisted of the inverted womb, and nothing else. She remained for some time feeble, and subject to hæmorrhage, which gradually disappeared. She made a journey to one of the Western States, and returned to the city; since which she became pregnant and gave birth to a child.

Now, in these two cases, I am very confident of my diagnosis; and, since both these women have been the subjects of conception and pregnancy, without artificial reposition of the organ, I rest convinced that the inverted womb, where the accident does not prove suddenly mortal by hæmorrhage, nor slowly fatal from exhaustion by inflammation and gangrene, or discharges, may reposit itself in some rare instances. I have made a statement of these cases to Dr. J. Greene Crosse, of Norwich, England, to whom the profession is about to be indebted for a work upon inversion of the womb, which I impatiently expect. I draw from my experience in these cases, and from what is stated by M. Colombat, much consolation for those women who are so unhappy as to be affected with inversion of the womb, irreducible by manual aid.—M.]

The *treatment* of inversion, like the other displacements of the organ, presents two chief indications, which are, to restore the womb to its natural situation, and to provide against a recurrence of the accident.

All practitioners are agreed that the most favourable moment for operating a reduction is that which immediately succeeds the occurrence. It is always easy to reduce it, when in the first stage, and where it has taken place previous to the deliverance of the placenta; all that is necessary being to carry two fingers into the vagina, so as to push the placenta upwards sufficiently to make the womb recover its natural shape and situation. On the other hand, where inversion, incomplete, takes place after delivery, far from trying to carry the hand up to the depression, within the uterine cavity, we should confine ourselves to an attempt to excite the uterine contractions by irritating the os tincæ, and by applying cold cloths to the upper part of the thighs and the external genitalia, or by making use of stimulating frictions at the hypogastrium, and particularly over the ligaments of the womb. Should the placenta be still found adherent to the fundus uteri, and the flooding not prove alarming, we ought, before detaching it, to wait until the uterine contractions become established again. However, in case of a complete, or nearly complete inversion, with abundant discharge of blood, especially, I should not hesitate, notwithstanding the opinion of Dr. Ferrand and most other persons to the contrary, to extract the placenta as soon as practicable, by detaching it with the fingers, acting from the edge to the centre, so as to avoid any traction on the centre of the fundus: this I should do previously to any attempt at reduction, which is far easier when the womb is empty. In this case, it is important to act without delay, because the placenta, which is generally attached to the womb only by some distinct portions of the surface, the rest being detached already, serves, by its presence, rather to keep up than to lessen the flooding, as is generally thought. Where the inversion takes place after the delivery of the placenta, or the escape of any foreign body, we should most expeditiously profit by the occasion of the greatest degree of relaxation to anoint the right hand and carry it into the vagina, while the left is placed upon the hypogastrium, with a view to support the uterus, while we push up the inverted portion with the hand that is inside, and which ought to be kept thus after the reposition, until it be well contracted; an event that may be promoted by frictions above the pubis, with the left hand. The patient should be advised to avoid bearing down, to breathe very gently, to moderate her cries or exclamations, and to observe a horizontal posture, and be as still and calm as possible. After having continued the frictions for some time, the womb should be kept compressed by means of a folded napkin, secured by a binder round the body.

Pretty much the same method should be followed, in the case of an inversion taking place immediately after the delivery of the fœtus and afterbirth. The reduction should be performed by placing the patient upon her bed, with the hips elevated higher than her chest, the legs drawn upwards and flexed; then, with the right hand seizing

the parts nearest to the pedicle, that is, those that are highest, and which, of course, were the last inverted, they should be pressed upwards, and made to re-enter first; then, in succession, we should push up the fundus, along the lateral parts, which should be made, little by little, to pass through the os uteri, imitating the manœuvre made use of in reducing a strangulated hernia. There is also another but less reasonable method which has been recommended, and which consists in depressing, with the hand, the fundus into the globe formed by the inverted organ, and proceeding, in this way, until the rejected cone, which is the base of the tumour, passes through the ring formed by the mouth of the womb. If the parts should happen to be soft and dilatable about the root of the tumour, this mode might prove successful; but in opposite circumstances, and such always exist where the accident is not recent, we should only flatten the fundus without overcoming the strangulation formed by the mouth of the organ. Besides, we might practise a mixed method of operating, that is to say, we might make the parts at the root return first, and then, when the fundus alone remains inverted, the whole mass might be pushed upwards with the tips of the fingers. Having the use of the hand alone, there never can be any occasion for the assistance of mechanical instruments, as repellers, and it will always be found useless to employ a deal of force, and especially to take a point d'appui against a wall, as was done by an English practitioner.* Having procured the reduction, the hand is to be left within the womb until contraction comes on, after which we should proceed, as before directed, in speaking of reduction in incomplete inversion.

[I cannot think that M. Colombat gives the best counsel as to the method of proceeding for this reduction. It is hardly necessary to remark that the state of inversion does not deprive the womb of its muscularity, and consequently of its ability to suffer what are called after-pains. It is also well known that frictions upon the sur-pubal region, and irritations applied to the mouth of the womb, or the internal surface of the organ, are constantly resorted to as means of exciting its muscular power. It cannot be, then, that by M. Colombat's method of grasping the neck of the tumour and shoving it upwards, we could fail to excite or irritate the organ into a violent exercise of its muscular force, which could not exist without hardening the tumour and rendering it stiff and inflexible. But if we render it stiff, hard, and inflexible, how shall we expect to return it through its hard and rigidly contracted os uteri? It is manifest we cannot expect success by so unreasonable a method of operating. As the ancients used to say, *non cuivis contigit adire Corinthum*, so I may say it does not happen to every practitioner to have reduced a completely inverted womb; and the late Prof. Dewees says, at p. 512 of his *System of Midwifery*, 2d edit., that "we may justly entertain doubts" of the uterus having been reinstated after complete inversion. I have already spoken, at p. 182, of the case which I saw with the late Prof. James and Dr. Geo. Fox, in which the womb was not only

* Biblioth. Médicale, t. xlvii., p. 271.

completely inverted, but had been strongly pulled by the midwife. Now in that case, I used the method recommended by Dewees and other authors, of grasping the globe firmly with the hands, in the view of pushing it back bodily into the pelvis—for it was of enormous size, reaching near half way to the knees—but I was unable to meet with the least success, until I had taken off the placenta, which still adhered, though detached in certain parts of the surface and much torn. After I had removed the afterbirth, I found that the organ became alternately soft and rigid, just as happens after delivery in an ordinary labour; and I further observed that to handle it was to irritate its contractility and to harden it, which rendered it obdurate against every attempt at reduction. I was compelled, therefore, to do what M. Colombat so pointedly condemns: i. e., to wait until it became relaxed, and then to indent the fundus and to drive that cone through the centre of the globe, and up through the cervix and os uteri, until I had carried my hand so high that the external organs contained my arm not more than four or five inches below the elbow. I feel very confident that if, *in any* case, I could succeed in indenting a fundus uteri and in bringing the cone up to the os uteri, I could always perfect the operation by gently pressing that cone against the ostium uteri, which, under a persevering maintenance of the pressure, would yield as readily as it does to a labour pain, or to the cone of the hand, when introduced in cases of hourglass contraction or spasm of the cervix under encysted or retained placenta. I dare recommend to the reader, therefore, to disregard the author's injunction and to adopt the method which I found successful.—M.]

Should the pressure of the hand on the womb, and the irritation of the os tincæ, together with frictions of the hypogaster, fail to cause contractions, and re-establish the tonicity of the organ, rather than make use of spirituous and astringent injections, as recommended by some writers, among whom we may mention Gardien, I should prefer to exhibit a few grains of secale cornutum, by which I should expect, not only to excite the contractions, but also to arrest the hæmorrhage, which is one of the most serious phenomena in uterine inversion. This method, which has never been attempted in such cases, promises to fulfil the twofold indication, and to be unattended with any inconvenience, when prescribed by a person properly qualified for the emergency. Generally speaking, there is little reason to fear a relapse; yet the womb has been found to invert itself afresh, even several days after the reposition had been effected. To obviate such an occurrence, the greatest attention should be paid to the state of the organ, and the patient should be advised to keep perfectly quiet, and lie upon the back for several weeks, carefully eschewing all sorts of exertion that might have an injurious effect upon the uterus.

In the case of an inversion of long standing, and where, from the contact of the air, or strangulation, or fruitless and violent efforts at reduction, the parts are found to be tumefied and inflamed, or where

the neck of the womb is spasmodically contracted, we might follow the example of Lauverjat, of Hoin, and of Choppart, and divers other practitioners, which is to combat all these affections by means of the antiphlogistic remedies, such as blood-letting, baths, emollient fomentations, opiates, &c.: with a view to lessen the spasm of the cervix uteri, and facilitate its dilatation, it would be well frequently to anoint the tumour, and the circle by which it is strangulated, with a liniment, composed as follows:

R.—Beurre de cacao,
Olive oil, ăă ℥ss;
Extr. belladonnæ, gr. viij.
M.—ft. Liniment.

When the magnitude of the tumour is increased by the presence within the cavity of intestinal convolutions, they ought to be pushed back into the abdomen, by pressing them carefully from below upwards, and obliquely from before, backwards. Should the womb be found engorged merely, and not inflamed, the advice of Dessault,* Madame Boivin, and Dugès,† should be followed, to try to lessen the volume of the lower portions of the tumour, by means of a steady compression with a small bandage, even when the tumour does not jut forth from the orifice of the vagina. This object may be pursued by means of a linen ball fixed to the cuvette of a stem-pessary, and assisting the effect of this gentle and prolonged compression by making friction over the course of the round ligaments. It might be possible to effect a gradual reduction, even where a prompt reduction was impracticable, or even contra-indicated.

Having well ascertained the impracticability of reduction, and that a continuance of the attempts could only be productive of injury to the patient by aggravating all the symptoms, there are left in the power of the art no means even of palliating the distressing effects of the disease. Thus, for the relief of the floodings, prescriptions have been made of all the various astringents; of the permanent tampon; of sponges, and a variety of means, that always prove of very small efficacy for these unfortunate cases. Under such circumstances, all that can properly be done is, to endeavour to keep the womb within the walls of the vagina, by means of a pessary, so as to relieve it of the sort of strangulation to which it is subject, when pendulous beyond the ostium vaginæ; and from the mischievous impression of the air upon its surface, as well as those of the frictions, and the contact of the urine.

Sometimes it happens that the inflammation of the completely inverted womb is resolved, and the organ remains irreducible without giving the patient any great inconvenience. Millot,‡ in hopes of relieving the patient of her infirmity, proposes, for the purpose of obtaining the reduction in such cases, that an incision should be made in the cervix so as to take off the constriction, by the use of *Frêre Côme's* lithotome caché. This proceeding, which it seems ought not to be absolutely rejected when all other resources are vain,

* Dict. de Med., t. xviii. t. 276. † Mal. de l'Uterus, t. i. p. 238.
‡ Supplément a tous les Traités sur les Accouchements, 1773.

would, we think, be much more efficacious and certain, if, instead of a simple incision, which to do any good, ought to be carried to a dangerous length, the constriction of the cervix should be removed by means of four small incisions, made in an oblique direction from the centre towards the circumference, either with a probe-pointed bistoury, or what is still better, a small lancet, with a concave probe-pointed blade, invented by the author for operating in fistula in ano, and for cutting the stricture in strangulated hernia. Even should these four incisions amount to only half a line each, a greater dilatation would be procured by them than from a single incision of four or five lines; for with such an one, the relaxation could only interest one point of the cervical ring, whereas, by the multiple incisions, the circumference of the os tincæ would be enlarged throughout. From these purely geometrical data, we may clearly perceive that the multiple incision, which need not be extensive, would be less liable to induce lacerations upon pushing up the fundus uteri through the os tincæ, a single long incision of which would be both hazardous and, at the same time, insufficient for the object proposed.*

When reduction cannot be obtained, it now and then happens that the disease ends in gangrene. In such event the suppuration should be promoted with the view to produce the separation of the eschars, while we also try to allay the symptoms by tonic drinks and by injections and fomentations with cinchona, camphor, chloride of sodium, &c. But should the symptoms be so severe as to threaten the woman with inevitable death, let the womb be removed either by the ligature or by a direct amputation.

There are numerous cases to show that this last plank of safety has not been trusted to in vain. Carpue, Osiander† and Wrisberg‡ have related cases of the completely inverted womb, the extirpation of which has been described. The ligature which has most commonly been employed has met with success. Rousset§ has published two cases. Faivre,‖ Bouchet, sen., of Lyons,¶ Newnham,** Granville and Gooch,†† Windsor,‡‡ Johnson,§§ Chevalier,‖‖ and others have reported facts of the same kind, the authority of which cannot be questioned.

It is true that to all these instances of success we may oppose a great array of cases in which the extirpation has been followed by the death of the woman. For example, the patient operated on by Déleurye,¶¶ died in the course of a few days; and, in another case,

* In our memoir on la Cystotomie sous pubienne quadrilatérale, 1831, we dwelt in much detail on the advantages of multiple incisions to take off stricture where the object is to obtain a free opening without making extensive wounds.

† Néue Denkwürdigkeiten, b. i. 312.

‡ De Uteri Resectione, &c. Gott., 1787.

§ Traité de l'Operat. Cæsar, 354.

‖ Jour. de Méd., Aug., 1786.

¶ Collect. de la Soc. Med. de Lyons, t. i.

** On the symptoms, &c., with a history of the successful extirpation of the uterus, p. 82.

†† Lond. Med. & Surg. Jour., 1828.

‡‡ Med. Chir. Trans., x. 361.

§§ Dub. Hosp. Rep., iii.

‖‖ Traité de Mal. de l'Utérus, by Boivin and Dugès, i. 240.

¶¶ Précis des Lèçons de Baudelocque sur les Renversemets de la Matrice, par Daillez, 104.

the woman died in seventeen days after the application of a ligature upon the root of an inverted womb that was mistaken for a polypus uteri, and in which a post-mortem examination confirmed the diagnosis that had been given by Goulard before the performance of the operation. Under similar circumstances Baudelocque and Desault were equally unfortunate; and, in fact, the application of the ligature to the inverted womb, supposed to be merely polypus uteri, was, in two other cases, followed by death—one of these cases being under the care of Dr. Rey, and operated on at Lyons in presence of Marc Antoine Petit, and the other at Paris, where the operation, which was done by a young surgeon, terminated fatally in a few days, though the first symptoms were not so very rapid, and though the organ was really thrown off by gangrene.* M. Dugès† states, that in a woman lying under imminent danger of death, Baron Dubois endeavoured to strangulate the uterus by a ligature, which put a stop to the flooding, but the distinguished professor was soon compelled, by the occurrence of alarming symptoms, to remove the thread which he had cast on the neck of the tumour. Be this as it may, the single ligature, as used by the surgeons above mentioned, or even the double one, adjusted by passing a needle through the middle of the neck, as was done in Baxter's‡ case, are the extreme resorts to which we must always turn where no other chance remains of prolonging the life of the patient.

Previously to closing our remarks upon the treatment of inversion of the womb, we must add that those cases that are produced by the weight of a polypus, or that are voluntarily brought on for the purpose of facilitating an operation, almost always reduce themselves spontaneously, as soon as the cause that produced them is withdrawn.

## OF THE ELEVATION OF THE WOMB.

In some rare cases the uterus becomes so highly elevated above the excavation of the pelvis, that the os tincæ becomes almost inaccessible to the *Touch*, and it is wholly impossible to reach the posterior surface of the womb by the Touch from the rectum.

The ascension of the womb, which is rare in its non-gravid condition, may arise from a variety of causes; such as insufficient length and width of the ligaments; the formation of an abscess within these ligaments; inflammation, engorgement and dropsy of the tubes and the ovaries; an extra-uterine pregnancy; the first stage of anteversion and retroversion; and, lastly, the expansion of the uterine cavity by hydatids or other foreign bodies.

As the upward displacement of the womb in pregnancy is, in some sort, a normal effect of that condition from the fourth to the eighth month, it does not deserve any special attention, except as it is taken as a sign of several kinds of disorder. As alone considered, it generally causes no sort of inconvenience, there will be no

* Boyer, t. x. 510. † Traité des Mal. de l'Uter., loc. cit.
‡ Annale de la Littérat. Méd. Etrang., t. xv. 578

reason to feel uneasy about it, except in view of the causes that may have led to its existence; and it of course requires no treatment but that applicable to the disorders of which it is a symptom. Besides, where the elevated state of the uterus is a permanent one, as when it results from the faulty state of the broad ligaments, it may act as a cause of barrenness. It might be possible to overcome it by applying by means of a speculum, a small cupping-glass, with exhausting pump, to the cervix uteri, and leaving it in situ a few minutes; the operation to be repeated from time to time, so as not to fatigue the woman too much. And, lastly, to promote the relaxation of the uterine ligaments and modify their recent adhesions and retractions, recourse ought to be had to baths and to frictions with mercurial ointment, a drachm each time being rubbed in upon the hypogastric and iliac regions of the abdomen.

## OF ABNORMAL IMMOBILITY OF THE WOMB.

While too great a degree of mobility of the womb is productive of various displacements, rendering the patient liable to very serious disorders, the absolute immobility of the organ, in addition to the obstruction it causes as to the dilatation of the bladder and rectum, might give rise to other inconveniences still more serious on account of their greater frequency.

Among the causes of immobility of the womb, may be enumerated those adhesions that follow attacks of peritonitis, or inflammation of the other organs in the vicinity of the womb and its appendages, such as the rectum and the bladder.

Attacks of metritis and metroperitonitis* succeeding laborious parturition, or difficult menstruation, also give rise to morbid adhesions and to unnatural ligaments, which often attach themselves to the womb as well as the sides of the pelvis, yet remain undetected long after their formation.

Adhesions producing immobility of the uterus were not properly understood until since the publication of Madame Boivin's† researches upon one of the most common causes of abortion. The author of that important work, and also M. Dugès,‡ have remarked

* Dr. Veindmann, in 1818, published a memoir (*Casus Rari*) containing a description and drawing of an adhesion of the epiploon to the anterior surface of the womb, which was probably the consequence of an attack of puerperal metro-peritonitis. In her subsequent pregnancy she died at the fifth month, with all the symptoms of an internal strangulation.

[I lost a patient, a married lady, of about thirty-two ætat., two years since, with strangulated intestine, which had strangulated itself under an abnormal ligament in the lower part of the pelvis behind the womb. This ligament must have been formed when she was about twelve years of age: at which time she suffered a dangerous and nearly fatal attack of peritonitis. She had all the symptoms of iliac passion, and it was not till after death that the strangulation was ascertained to take place in the pelvis.—M.]

† Recherches sur les causes les plus, fréquentes de l'Abortement.

‡ Traité Prat. des Mal. de l'Utérus, t. i. p. 176.

that scrofulous women, and those who possess a lymphatic temperament; those who are subject to constipation and irregular action of the digestive apparatus, are also more liable than others to unnatural adhesions, and by consequence, to preternatural immobility of the organ. It would seem, from what M. Dugès has observed, that little girls abandoned to habits of masturbation are also liable to this sort of immobility; for the permanent excitement of their genital organs by sympathetically irritating the peritoneum, and particularly that part of it connected with the womb, must necessarily lay the foundation of adhesions betwixt the womb and the other peritoneal superficies. These opinions, which, however, as M. Dugès says, are as yet merely conjectural, require, for their confirmation, the careful observation of many cases.

By means of the Touch *per vaginam*, and by learning the past history of the case, it is within our power to foresee that a certain degree of this uterine immobility may render it impossible for the womb to rise upwards properly in the gravid state. By the introduction of the finger we discover that the womb is firmly fixed to one side according to the direction it has taken. In some instances it seems to be confined in every direction around it; in others, only at certain points of its circumference.

Where the womb rises higher on one side than on the other, it is because one of the round ligaments has become engorged and shortened, so that, at the sixth or seventh month of gestation, it is almost inevitable for the woman to abort, as Madame Boivin has shown by many examples.

The historical circumstances that may serve to throw light on the diagnosis, are certain maladies, such as inflammations of the womb and the peritoneum, dysentery, abortions, laborious labours, and a variety of physical lesions, such as wounds, lacerations, and abscesses in the uterus and the tissues adjacent to it.

Although sterility, that is often caused by the adhesion of the Fallopian tubes, is to be regarded as a misfortune, conception, in such a condition, is a vastly more serious one, since it may give rise to the most important symptoms, by setting on foot a new inflammation, caused by the stretching of the ligaments of the expanding womb, as it continues to rise higher and higher during the pregnancy. This gives the woman violent pain, and dragging in the pelvis, and a feeling of lassitude in the thighs. Abscesses often form in the vagina and rectum, and in most cases, the death of the patient, which is inevitable, is preceded by abortion, which may be expected, about the third or fourth month, upon some attack of violent uterine inflammation or profuse hæmorrhage.

While, on the one hand, these preternatural adhesions may tie up the non-gravid uterus, while of its natural dimensions and in its proper situation, so on the other, may similar accidental causes operate while the organ is very high up in the abdomen, and distended with the products of conception. In some cases, the omentum, jammed far up in the epigastric region, inflames at a point in contact with the womb, and then very readily forms adhesive connections with it.

This pathological soldering is in general productive of no inconvenience, and is not disclosed by any symptom during the progress of the pregnancy;* but the case is different where the womb, become freed from the products of conception, returns rapidly towards its non-gravid dimensions, descending from the epigastrium down behind the symphysis of the pubis. The omentum, now become too short from its accidentally rolled condition, is powerfully and painfully stretched; unless, indeed, the adhesions and unnatural bands that bind the womb happen to be weak enough to break and set it free. This peritoneal tension, and the retractive movement of the uterus detained thereby above the superior strait, are recognized by the following symptoms: the colon and stomach are painfully dragged downwards, and their irritation is participated in by the peritoneum, which inflames from partial ruptures or lacerations taking place at different points of its surface, upon which supervene attacks of vomiting, diarrhœa, fainting, &c. Lastly, should the adhesions not give way, there is almost always an attack of fatal hæmorrhage, brought on in consequence of the inability of the womb to contract to its proper size again, thus preventing the great sinuses of the organ from closing, and leaving their orifices so open as to permit a large issue of blood. Samples of this sort are to be found in Madame Lachapelle's† excellent work. Fred. Ruysch,‡ as well as the celebrated Morgagni,§ has published cases of the same kind, but of a less distressing result, for they merely gave rise to the painful dragging of the stomach, and some other derangements of the health.

Unfortunately, the physician, after ascertaining the existence of the adhesions in question, is compelled to remain merely a sad spectator of the disorders arising from them. The sole resource we have is to endeavour to prevent the adhesions, and the formation of the bands that fix the uterus in an immovable station. This attempt may be made by the employment of antiphlogistic means, to which should be added the use of mercurial frictions upon the abdomen. Having overcome the inflammation that has produced the attachment, there is some probability of effecting the resolution of such adhesions as have not become consolidated, and putting a stop to the pathological action which tends to their production. In their work upon the diseases of the uterus, Madame Boivin and M. Dugès have published a case of adhesion of the uterine appendages, accompanied with symptoms of chronic inflammation, that was cured by means of a mercurial treatment. The mercurial ointment was exhibited in friction on the thighs and sides of the abdomen, a drachm at each friction. In the course of one month, all the symptoms disappeared, without the occurrence of salivation. After six months

* It is true, Baudelocque had a case which proved fatal before delivery, in the first stage of labour, where the epiploon was rolled up like a rope and attached to the right lateral anterior part of the womb, so that the stomach and arch of the colon were singularly pulled by it. The fatal termination was preceded by vomiting, diarrhœa and syncope. Traité des Mal. de l'Utérus, par Boivin and Dugès.

† Prat. des Accouch., ou Mém. et Obs., t. ii., p. 376.

‡ Obs. Anat. Chir. Centur., p. 59 and 78. § Epistol. Anatom., 46, art. 46.

the woman could scarcely be recognized as the same person, so great was the change in her appearance. The authors prefaced this case with the history of other cases of immobility of the womb in pregnant women, all of which produced abortion and death between the third and fifth month of pregnancy.

## OF HYSTEROCELE OR HERNIA OF THE WOMB.

Notwithstanding hernia of the womb is very rare, the annals of medicine contain a sufficient number of cases to prove, beyond cavil, that such an occurrence is possible, not only in the non-gravid, but also in the gravid womb.

Though in general the womb does not, except in pregnancy, rise above the superior strait, hysterocele has been noticed in several instances, of which we shall speak presently, by Choppart,* by Prof. Lallement,† and by Dr. Murat.‡

The principal characters of hysterocele in the non-gravid womb are the following: the tumour is hard, very little reducible, and mostly indolent; its form is roundish, and its root is thick; the vagina is stretched, and curved obliquely from below upwards towards one of the groins. The os uteri, which is very high up in the pelvis, is pointed towards the sacrum; or it wholly disappears, having been lodged within the hernial tumour. The reduction, which ought to be promptly attempted, with the greatest care, cannot be effected, except when the hysterocele is a recent one, of small size, and without any adhesions. After the reduction, a relapse should be prevented by a large compress of lint, supported by a bandage.

[A common truss for inguinal hernia would be preferable.—M.]

While hernia of the non-gravid uterus is liable to be confounded with protrusion of other abdominal viscera, such a mistake cannot be made as to that of the pregnant womb.

In fact, the volume of the tumour, which daily increases, the dull fluctuation perceptible in it, the motions of the fœtus that are distinguishable through the integuments, and the sounds of the fœtal heart, ascertained by the stethoscope, yield so many signs, that afford a sure diagnosis, and remove every remaining doubt as to the nature of the hernia.

There are three kinds of hysterocele, which are: 1. *Inguinal*, never met with, except in the non-gravid state. 2. *Crural*, which may occur in that state, but most commonly in the pregnant female; and 3. *Ventral*, which may take place where the womb is distended with the products of a conception.

From a case published by Maret,§ formerly perpetual Secretary to the Academy of Sciences at Dijon, it appears to be possible for an inguinal hysterocele to be congenital. In the instance spoken of by

* Boyer. Mal. Chirurg., t. viii. p. 381.
† Mém. de la Soc. Méd. d'Emulation, 3 ann. 323.
‡ Dict. de Méd., en. 21 vol., t. ii. p. 162.
§ Consultations Méd., Légales: and Mad. Boivin and M. Dugès, t. i. p. 39.

this learned observer, the hernia of the womb was upon the right side, which is the most common situation of inguinal hernia uteri; probably because the womb is naturally somewhat inclined towards that side, and because the round ligament on that side is shorter than its fellow, and thicker.

The *causes* of hysterocele in pregnancy may be attributed to weakness, or relaxation of the ligaments of the womb; to a violent blow and contusion of the belly;* to the effects of a Cæsarian operation in a preceding labour;† and it should be considered that an abscess in the groin‡ or hypogaster, a sudden separation of the linea alba,§ an old cicatrix, and certain other lesions, like those we have just named, may give rise to hysterocele upon the occurrence of some violent shock or effort of the patient.

As these displacements are very rare, we shall confine ourselves to the relation of a few of the cases of each sort that are contained in the records of the science.

## INGUINAL HYSTEROCELE.

A case of this kind of hysterocele, which most writers look upon as impossible in pregnancy, was met with by Professor Lallement,‖ at the Hospital la Salpétrière, in a woman at the age of seventy-one years. The tumour, which had come through the right inguinal ring, contained the right ovary, the whole of the womb, and a portion of the vagina: the hard life led by this woman had given rise to and caused the gradual increase of the tumour, which, though very painful at first, gradually became indolent. It was pear-shaped, and four or five finger-breadths long. Professor Boyer¶ gives the analysis of a case of the same nature, published by Choppart: the woman was fifty years of age; her womb, which almost completely escaped through the inguinal ring along with the left ovary and tube, was contained, without any adhesions, in a very large hernial sac, and appeared to be much smaller than common. It was of an oblong shape, of a pale red colour, a soft and flaccid consistence. It was constricted near the place of the ring; and exhibited at the fundus some membranous laminæ that seemed to be the result of a former adhesion of the epiploon.

## CRURAL HYSTEROCELE.

Crural hysterocele may also occur in the non-gravid state of the womb. M. Murat** and Professor Lallement‡‡ saw a case of the kind in a woman eighty-two years of age, who died at la Salpétrière

* Dan. Sennertus, Opera Omnia, de Hernia Uterina, tom. iii. p. 654.
† Rousset, Traité de l'Oper. César., loc. cit.
‡ Ruysch, Advers. Anat. Chir. Med. Decas ii. 23.
§ J. L. Petit, Œuvres Posthumes, t. iii. p. 264.
‖ Mem. de la Soc. d'Emulation, iii. année 323.
¶ Boyer, Maladies Chirurg., t. viii. 381.
** Dict. de Med. in 21 vol., v. iii. p. 162.
†† Bulletins de la Faculté de Méd. de Paris, t. i. p. 1. 1816.

in 1816. She had had the hernial tumour for forty years; it was five inches long and four in width, and occupied the whole bend of the right groin. It was of a pyramidal shape, the apex above and the base downwards. Upon a careful dissection, it was found that the hernial protrusion had taken place behind the broad ligament, and that the tumour contained the womb, the ovaries, the tubes, and a portion of the vagina. This kind of hernia also takes place in the pregnant womb. Fabricius Hildanus* cites from Doering,† that a woman of Nissa, in Silesia, at the period in her ninth pregnancy, had a tumour in the left groin which grew so as to extend down to her knee. Upon a consultation of physicians being held, it was decided that an incision should be made into the middle of the tumour, to terminate the labour deemed by all other means impracticable. A child was extracted, that lived several months; but the mother died in the course of three days, after having suffered the most excruciating pain.

The celebrated Daniel Sennertus,‡ who died with the plague at Wittemburg, in 1637, states that the wife of a cooper, in the early stage of her pregnancy, being busy helping her husband to bend some hoop-poles, one of them suddenly sprung back and struck her a violent blow on the left groin. Immediately after the accident a tumour appeared upon the part, which increased daily in size, until it became too large to be reduced; and the patient was under the necessity of supporting it by a suspensory bandage from the shoulders. The term of pregnancy being at length come, the Cæsarian operation was performed upon the tumour. The promising hopes of success that followed the operation were not, however, sustained, as she died on the twentieth day, though the child lived for nine years. Although it is probable that both this and the case from Hildanus were crural hernia uteri, yet the few details given leave some doubt as to that point; and it is possible, that in this case the tumour may have been formed through the inguinal ring, or, what is more probable, through a rupture of the muscles of the inguinal region.

## VENTRAL HYSTEROCELE.

A ventral hysterocele is one that takes place through an accidental separation of the abdominal muscles. No cases of this sort have been met with except during pregnancy; and it appears to have been often confounded with obliquity of the womb from excessive relaxation of the abdominal parietes, carried to such an extent as even to allow the womb to fall over upon the front part of the thighs. J. L. Petit§ informs us that a woman who had been in labour for three days, suddenly felt a violent pain, accompanied with a feeling of laceration, in the belly, followed by extreme weakness, and a complete inertia of the womb. There were two herniæ of the belly. One

* De novâ rarâ et admirandâ hernia uterinâ (Opera. Omnia, p. 893).
† De Hernia Uterina âtque partûs Cæsarei Historia.
‡ Opera Omnia de Herniâ Uterinâ, t. iii. p. 654.
§ Œuvres Posthumes, t. iii. p. 264.

extended from the umbilicus to the symphysis pubis, and the other from the navel to the xiphoid cartilage. "The former, that is, the lower one, was so large that the recti muscles were separated from each other to the distance of nine or ten inches. I was told that this tumour had commenced long ago, and had increased with each successive pregnancy and labour; that for the last six months the growth of the tumour had been more rapid and greater, but had only attained its present enormous size in the course of the last three days." Petit, having ascertained that the fœtus was hydrocephalic, punctured the cranium with a bistoury, and took measures, at the same time, to compress the abdomen with a small pillow, secured by a bandage. The extraction was easily performed, and the woman recovered promptly. Frederick Ruysch* tells us that a woman who became pregnant after having had a suppuration in the groin, found a tumour forming in the part, that grew so large as to reach down to the knee. The time for her confinement having arrived, the midwife succeeded in making the child return into the abdomen, by lifting the tumour up, after which it was soon born by the natural passages. Roussett mentions a case of hernia of the same kind, in a woman who had undergone the Cæsarian operation in a preceding pregnancy.

We shall cite one more case of ventral hysterocele, that might readily have been mistaken for a case of crural hernia, had it not been subjected to a very careful examination. A woman, forty years of age, in her fifth pregnancy, noticed the gradual increase of a tumour that she had had for some years in the groin. It was soon evident that the tumour contained not only the womb, but also a living fœtus. Professor Saxtorph, the physician to the patient, trusted the expulsion of the child to the mere powers of nature, but he had to take away the placenta, by the introduction of his hand, which enabled him to verify the abnormal situation of the womb. The patient recovered, notwithstanding that her womb, after resuming its non-gravid dimensions, continued to project beyond the abdominal parietes, which showed that the protrusion had taken place through a division in the muscles, and not through a natural opening, as seemed most probable.‡

We shall not extend our remarks upon uterine hernia any further;—merely adding, that the *treatment*, whether in the gravid or the non-pregnant female, consists in attempting the reduction, and the keeping the tumour reduced, by means of a suitable bandage. Should the reduction be found to be impossible, and particularly where the woman is beyond the child-bearing age, we ought to be satisfied with the application of a containing bandage. Under other circumstances, recourse ought to be had to a gradual compression long continued, as advised by J. L. Petit for adherent enterocele.

In a case of pregnant hysterocele, where the powers of labour should appear to be sufficient for the delivery, as might be supposed from the regular progress of the labour, the discharge of the waters,

* Advers. Anat. Chir. Med. Dec. ii., p. 25. † Traité de l Opér. César., loc. cit.
‡ Bib. Méd., t. 67. p. 59.

Fig. 20.

and the natural presentation of the fœtus in the vagina, we should do nothing more than lift up and support the fundus of the womb, so as to give to the organ, as far as possible, the direction it ought to have in a natural case of parturition. In other and less favourable circumstances, we must have recourse to the Cæsarian operation, which, notwithstanding all the dangers accompanying it, succeeded in the woman whose case we have cited from Rousset. In all such cases no decision should be made in favour of a resort to extreme measures until after the trial of all the others. Lastly, should there be observed, in a case of hysterocele, signs of a strangulation of the tumour, it should be freed in the common way, by cutting the stricturing edge, or, what is better, by short multiple incisions with a probe-pointed bistoury, or the small sound with a concealed blade, invented by us for operating on fistula ano, and for the multiple incisions of the stricture in all forms of hernia. (*See the Figure annexed.*)

## HERNIA OF THE OVARY.

Soranus of Ephesus, surnamed the *Second*, to distinguish him from the other Soranus of the Methodical sect, was the first author to mention hernia of the ovary, in his treatise on diseases of women, a fragment of which was published by Adrian Turnebus, under the title, *De Utero et Muliebri Pudendo libellus*, some extracts from which are also given by Oribasius and Aetius. Describing a sort of hernia that he thought very extraordinary, he says, that "*the intestines had fallen down into the labia*, or, according to his expression, *into the scrotum, preceded by the ovaries.*"*

Verdier† met with a similar instance fifteen centuries after Soranus; Haller‡ gave a third, and Percival Pott§ a fourth. It was not until since the description given of his case by the celebrated English surgeon, that practitioners have been willing to admit of such a species of hernia, a species that forms the subject of M. Deneux's excellent monograph.

There are six sorts of hernia of the ovary. 1. The inguinal, noticed by Soranus, Verdier, Haller, Pott, Lassus, Babin, Dessault, Lallement, Rougemont, Bessière, and Billard. 2. The crural, ascertained by Messrs. Murat and Deneux. 3. Ischiatic, by Camper and Papen. 4. Umbilical, by Camper. 5. Ventral, by Ruysch, Stein and Lauverjat; 6th and last, the vaginal or vagino-rectal, by Sir Everard Home, Roux, Barret, Dugès, Madame Boivin, and other authors.

* Oribasius. cap. xxxi. and xxxii. lib. xxiv.
† Mém. de l'Acad. de Chir., t. ii.
‡ Herniar. Adnotat. crit. in opusc. pathol.
§ Med. Obs. and Inq.: Works, vol. iii.

Cases of ovarian hernia are met with on one side alone, or on both sides at the same time. Verdier, Lassus, Deneux, and Billard have proved that though they are most frequently the result of accident, they may also be congenite; in some cases the ovary alone is the subject of protrusion; but for the most part, that organ is accompanied in its escape by the womb, by portions of intestinal convolutions, and almost invariably by the Fallopian tube.

The *predisposing causes* of ovaric hernia are ascitic dropsy; sudden emaciation; immoderate use of relaxing drinks, and fat and oily food; living in damp climates; the presence of Nuch's canal, and various displacements of the womb: during infancy, the smallness of the lower basin of the pelvis, the straight elongated form and smooth surface of the ovaries, and, lastly, their situation in front of the psoas muscles, and nearly opposite to the lower opening of the abdominal parietes.

The *occasional causes* of ovaric hernia are, in general, those of the other sorts of hernial protrusion; but in adults, they chiefly consist in circular compression acting just above the hips, either by means of a belt, or by a badly constructed corset; the development of the womb and of the ovary when diseased; wounds and abscesses of the hypogastric and inguinal regions; in young patients, loud crying continued for a long time; the careless application of bandages for the support of the navel during the month; and, finally, all kinds of exertion capable of bringing on the other kinds of hernia of the pelvic viscera.

There is sometimes a degree of obscurity in the *diagnosis* of ovarian hernia, and the signs of its existence may be varied by inflammation, adhesion, tumefaction, scirrhus, and dropsy of the organ; or by its containing hydatids; or as exhibiting any other diseased condition capable of altering the form of the tumour, as well as the configuration and structure of the ovary itself. In spite of all these modifications, brought about in the characteristic signs of ovaric hernia, it is possible, with a little attention, to discriminate between it and the glandular or lymphatic tumours, the cutaneous abscesses, the epiplocele, the enterocele, and the fatty hernia, with which it has been confounded. Where the displaced ovary preserves its consistence, its mobility and its natural structure, especially when it comes through the inguinal ring, which is most commonly the case, the tumour, ordinarily about the size and shape of a pigeon's egg, is circumscribed, elastic, painful upon pressure—of a glandular feel, inducing no change in the colour of the skin, causing no colic pain, vomiting, or borborygmi, no dragging of the stomach, no constipation; it is not spontaneously reduced, and when the artificial reduction is accomplished, is unattended with gurgitation of air, as in intestinal hernia; and lastly, far from obtaining relief from lying upon the side opposite to the tumour, the woman, just as happens from being afoot, has severer pains in the hypogastrium and loins, and a much more distressing sense of dragging. Such are the characteristic signs by which we may recognize the hernias of the ovary, when the protrusion takes place outside of the pelvis, and discriminate be-

tween them and the cases of entero-epiplocele, with which they might readily be confounded. Lassus has judiciously remarked that there is no sign more available than that derived from the connection of motions communicated to the womb by the hand, through the vagina, or the rectum, with those felt at the same time in the tumour, whether by the hand of the patient or that of the medical attendant.

In young women of a strong habit of body, an ovarian hernia is subject to become strangulated, particularly if the protrusion happen to occur at the inguinal or femoral opening. The occurrence is signified by an increase of the phenomena above pointed out, and, sometimes, when the inflammation is of a high grade, by the formation of an abscess, and even by the supervention of an attack of peritonitis.

It is, therefore, a matter of the utmost exigency to reduce an ovarian hernia as soon as practicable, and to keep it reduced. The least delay may render the reduction not only more difficult, but even out of the question. The ovary, which has now become compressed, inflames, swells, and contracts adhesive union, rendering it impossible to replace it in its natural position. It has, in such case, been found to become scirrhous, which contra-indicates any attempt at reduction, and establishes a necessity for the excision of the organ.

When an ovarian hernia becomes strangulated, the consequences resulting from it are to be combated by position, by general and local blood-letting, by baths, fomentations, emollient poultices, and injections; and, finally, by cutting up the stricture, should all other means fail. Having carefully uncovered the ovary by strokes of the bistoury, layer by layer, and relieved the ring with a probe-pointed bistoury, or by a sound with the concealed blade, which is particularly convenient for the multiple incisions, the contents of the hernial sac should be returned into the abdomen should they prove to be sound, and should the adhesions they may have formed admit of being broken up. Under opposite circumstances, after relieving the stricture, we should rest contented with applying mild dressings until all inflammatory symptoms are gone, and afterwards make use of moderate pressure upon the part by means of a proper bandage. This method is always to be preferred to the excision; and the ovary, after being carried back into the abdomen, or, at least, within the ring, will, by stopping the canal, be a preventive of enterocele or epiplocele, which are far more dangerous. Should dangerous symptoms or great inconvenience result from this procedure, we still have within our reach the extreme measure of extirpating the ovary, which in Potts' case presented neither difficulty nor danger, he having exscinded the ovaries after tying each of the ovarian ligaments. The patient in Mr. Potts' case, as well as in M. Lassus' case, (*Pathol. Chirurg.*,) sustained from this sort of female castration, nothing beyond the loss of certain of the sexual attributes and an absolute barrenness. In case of a scirrhous ovary, or of one affected with hydatids, it would be reasonable to perform the exscinding operation; in which event, as well as in the operation for cutting up the stricture, the wound ought to be dressed in the same way as any simple wound.

## VAGINAL CYSTOCELE, OR HERNIA OF THE BLADDER IN THE VAGINA.

The bladder, like most of the organs within the pelvis, is liable to be displaced, and to form various sorts of hernias, which have received the appellation of *Cystocele*, whether *inguinal*, *crural*, *perineal*, *vaginal*, or *vulvar*, as they happen to take place at the inguinal ring, the crural arch, at the perineum, the interior of the vagina, or the middle of one of the labia externa. As these two last modes of displacement are the only ones peculiar to the sex, we shall consider ourselves as exempt from the necessity of describing the other three kinds.

To judge from the principal treatises upon general surgical pathology, and even from the most approved monographs on hernia, and from all the ancient and modern works specially devoted to the diseases of women, the hernia of the bladder called vaginal cystocele, ought to be looked upon as the worst of all displacements. The illustrious Scarpa, in his admirable treatise on hernia, Samuel Cooper, in his excellent Dictionary, Dupuytren, in his Lectures, never spoke of this case. Boyer, in the treatise *Des Maladies Chirurgicales*, Messrs. Roche and Sanson in their *Eleménts de Pathologie externe*, and, in fact, most of the highest modern authorities scarcely speak on this point, so that we have but a few facts observed by Méry,* Cûrade of Avignon, Robert, of Lille,† Divoux,‡ Christian, of Liverpool,§ Sandifort,‖ Chaussier,¶ Sims,** Astley Cooper,†† Rognetta,‡‡ and Madame Rondet,§§ a midwife at Paris.

To one perfectly acquainted with the connection of the vagina and bladder, it is easy to understand the mechanism of a vaginal cystocele; the urinary sac being pushed against the anterior wall of the vagina by a sudden descent of the diaphragm and violent contractions of the abdominal muscles, to a certain degree depresses that wall, or, passing through a split in the vaginal fibres, gives rise to a membranous fluctuating tumour, that projects within the vagina, or even appears external to the labia majora.

The *predisponent causes* of vaginal cystocele are: too large a pelvis; numerous repetitions of pregnancy and labour; a lymphatic temperament; an erect position too long and too frequently continued; an occupation compelling the patient to bear heavy burdens, or to

* Mem. de l'Acad. des Sci. ann. 1713. Verdier, Recherches sur la Hernie de la Vesie. Boyer, t. viii. p. 372.

† Mem. de l'Acad. de Chir., t. ii. Verdier, [loc. cit.]

‡ Disp. de Hernia Vesica Urinaria, 1732.

§ The Edin. Med. Journ., ix. 281.

‖ Observat. Anatomica., t. i. cap. 3. p. 58.

¶ Leblanc Précis. des Opérations de Chir., ii. 368.

** Sir Astley Cooper on Abdominal Hernia, p. 57.

†† On Abdominal Hernia, loc. cit.

‡‡ Considérations sur la Cystocèle Vaginale, &c., (Rev. Médicale, June, 1832, p. 398.) This memoir of Dr. Rognetta is, beyond contradiction, the best monograph on the subject of Vaginal Cystocele. By his experiments upon the dead subject, he has thrown much light upon the mechanism, symptoms, progress, diagnosis and treatment of various displacements of the urinary bladder in the female.

§§ Mem. sur la Cystocèle Vaginale, 1835.

make too violent exertion of the muscular power; a chronic leucorrhœa; pregnancy; retention of urine, and the habit of discharging it too seldom; *abusus coitûs;* hot hip-baths; foot-warmers; tight lacing, especially with a steel or whalebone busk; and, lastly, a peculiar laxity of the texture of both the vagina and bladder, and a certain conformation by which the bladder is enlarged at the sides, and sunk down behind the symphysis pubis.

In general, vaginal cystocele is not to be met with except in women who have had children; yet a case fell under the notice of Sandifort, in a young hysterical girl, who had been tormented by a spasmodic cough, (*Obs. Anat.*, t. i. p. 58,) and one under that of Sir Astley Cooper, in a girl of seventeen, admitted at Guy's Hospital for a supposed falling of the womb.* The disorder has been noticed in the pregnant female by Méry and Cûrade of Avignon, (loc. cit.,) during labour, by Robert, at Lille, and by Christian, at Liverpool, (loc. cit.;) and lastly, as late as seven days after childbirth, by Chaussier, (Leblanc, *Précis. des Opérat. de Chir.*, t. ii. p. 368.) In this case, the vesical hernia came on in consequence of a violent effort that the patient made in moving a bucket of water.

Among the *determining causes* of cystocele, ought to be classed the labour of parturition, violent exertions, strong pressure on the hypogaster, jumping, dancing, coughing, vomiting, trotting on horseback, the jolting of a carriage without springs, and, in fact, most of the efficient causes of other kinds of hernia.

It shows itself by a tumour formed by the bladder depressing the anterior walls of the vagina, and presenting itself either within the canal or outside of the orifice of the vulva. The tumour is reddish, [bluish—M.,] rounded, tense, and with a polished surface, when the bladder is full enough to have distended the rugæ of the mucous surface of the vagina. On the contrary, it is uneven, wrinkled, and soft, when the bladder contains little or no fluid. In the former case, it fluctuates, and, when pressed from below upwards, it disappears; but the urine escapes from the meatus urinarius, and smells so much the more offensively, as it has been longer detained within the bladder. In fine, violent exercise, long walks, and long standing increase the size of the tumour, which, on the contrary, diminishes under rest and the horizontal posture.

Vaginal cystocele always produces dysury, and sometimes ischuria; it also causes a stinging sensation in the urethra, and, in some instances, a very painful tension and increased size of the abdomen; symptoms that are mostly attended with agitation—sleeplessness, dragging of the stomach, and a variety of sympathetic phenomena.

This species of displacement of the bladder exhibits itself either separately or complicated with cystitis, metritis, and not unfrequently with vaginitis, or various uterine deviations, as anteversion, retroversion, or a more or less complete prolapsion. All such complications of vaginal cystocele should be met by an antiphlogistic treat-

* [Dr. Mütter recently met with a case in a child six months old. The whole bladder, filled with urine, was protruded beyond the genital fissure during a convulsion.—M.]

ment, employed coincidently with the management of the primary disorder.

When this vesical hernia occurs in a pregnant woman, it may become so large as to obstruct the passage of the fœtus. It would always be easy here to discriminate between the urinary bladder and the bag of amniotic waters by introducing the index into the vagina, so as to make sure that the os tincæ is free and situated behind the cystic tumour, which may readily be made to disappear by drawing off its contents with the catheter. This proceeding was successful in the hands of both Baudelocque and Robert, of Lille.

A vaginal cystocele, developed within a few days after a woman's confinement, may become sufficiently large to interfere with the escape of the lochia until the swelling is reduced. This actually happened in Chaussier's case, related by Hoin and Leblanc (loc. cit.)

It has also been found that the projecting part of the bladder, within the vagina, contained urinary calculi that were removed by incising the tumour itself. François Tolet* removed five in this way, and Ruyschf in the same manner extracted forty-two of them.

The treatment of vaginal cystocele presents two chief indications, which are, as for all other cases of hernia, to reduce the tumour, and prevent its future displacement. Where the cystocele is a small one, it may be easily restrained, either by means of a sponge cut into a cylindrical shape and impregnated with some astringent liquid,‡ or by a gum-elastic pessary, *en bondon ;* or by Rognetta's pessary; or simply by means of a sachet of fine linen, filled with oak bark soaked in red wine, and kept in sitû by means of a T bandage.

When the vesical hernia is a large one, and is compressed by the womb and the adjacent parts, the treatment should be commenced with, what is always useful in such cases, the introduction of the catheter—a male catheter—taking care to turn the concave part of the instrument towards the vagina, so as to correct the faulty position of the urethra, which is ordinarily met with in the case. If, notwithstanding all attempts, it should be found impossible to use the catheter, and particularly if the patient be in labour, and incapable of delivery on account of the obstruction, a trocar ought to be plunged into the centre of the tumour; and when the urine is discharged, a catheter should be left in the bladder, to prevent the formation of a vesico-vaginal fistula.

In case the catheter were passed into the bladder, without inducing a flow of the urine, let the tumour be compressed, as in Robert's case, so as to compel the liquid to flow towards the open end of the instrument.

The interesting observations made by Mr. Burns, of Glasgow, in the dissection of a case of vaginal cystocele,§ would go to show that

* Traité de la Lithotomié ou de l'Extraction de la Pierre de la Vessie.

† Adversaria Anat. Chir. Med., (loc. cit.)

‡ Dr. d'Huc, in his Manual *le Medecin des Femmes*, p. 61, recommends the following decoction, which seems to us to be very suitable: R. Rhatany, bruised, ℥ss.; water, lbj.; boil the mixture, and at the close of the boiling, add Provence roses, ℥i; strain the liquor.

§ Mr. Burns' anatomical observations are in the Transactions of the Edin. Med.

this, like other forms of hernia, is liable to strangulation. The celebrated English anatomist, as a means of relieving it, proposes to apply the bistoury to the part strangulated. This seems to us to be both dangerous and useless; for even should a strangulation take place, —and no such instance has been met with,—it might be overcome either by drawing off the urine with the catheter, or, as we have above advised, by plunging a trocar into the bladder through the vaginal paries, if the application of the catheter is, or should be found to be wholly impracticable.

We cannot close this chapter without remarking that there is a species of cystocele that might be called urethral, from the fact that the bladder turns out through the canal of the urethra, and presents itself at the meatus urinarius, which it completely fills up and obstructs. This form of cystocele, very rare it is true, was met with by Dehaen,* and is always coincident with an intestinal hernia, pressing the vagina downwards and carrying along with it the bladder of urine.

A perineal cystocele in the female, requires the same treatment as the vaginal cystocele, and exhibits nearly the same diagnostic signs. The perineum is occupied with a large, indolent, slightly elevated swelling, that is soft, disappearing readily on pressure, or upon the evacuation of the bladder; and increasing in size and firmness when the bladder is full of urine.

## PROLAPSION OF THE MUCOUS MEMBRANE OF THE URETHRA.

Prolapsus of the internal membrane of the urethra is a very rare disorder, on which it is necessary, nevertheless, to offer a few remarks. This affection, which is owing to a relaxed and thickened state of the mucous coat, is known by a small reddish tumour projecting more or less considerably from the orifice of the urinary meatus, and distinguishable from the urethral fungus, of which we are hereafter to speak, by its regular shape, its reducibility, and especially by the opening discoverable in its centre. In a case of this kind, noticed by Seguin,† the finger could be introduced into the urethra, which was extremely dilatable and relaxed; after having vainly made use of astringents, he passed a female catheter into the urethra, and applied a ligature upon the instrument and protruded membrane, which was followed by her complete recovery in the course of eight days. We have been equally successful, by cauterizing the whole length of the canal with a concentrated solution of nitr. of silver, which was applied upon a bit of sponge fixed in a small cylinder with one of the sides open. The patient in question, who is now twenty years of age, although stout and well made, has the organs of generation in an evidently relaxed state; the womb is generally an inch from the vulva; both the labia majora and minora are drooping, soft, and

Soc., ann. 1824, and in Sir Astley Cooper's Anatomy and Surgical Treatment of Abdominal Hernia, 64.

* Ratio Medendi, t. i. p. 76.

† Biblioth. Méd., t. lxviii. p. 86.

much more elongated than usual. She was married at sixteen, and has twice been delivered of dead children in consequence of falling on the stairs. She is a washerwoman, which requires her to be constantly on foot, which, with her exertions in frequently carrying clothes to a great distance, may, conjointly with a peculiar idiosyncrasy, be looked on as the predisposing causes of the relaxed and unnatural state of all her genital organs.

## VAGINAL ENTEROCELE.

Vaginal enterocele consists in a tumour that projects into the vagina, and that is produced by the displacement of a portion of a bowel. This kind of hernia, rather less rare than the other kinds, is well understood at the present day. Garengeot* is the first author who mentions it; since whom it has been observed by Verdier,† Leblanc,‡ Hoin,§ Richter,‖ Dehaen,¶ and several other practitioners.

The portions of the vagina that are lined by the peritoneum, that is to say, the anterior and posterior walls, are the only ones that can give way before an intestinal protrusion into the cavity of the tube. The predisposing causes of this sort of displacement are partly the same as those of other hernias—thus, pregnant women, women newly delivered, and such as have many children, are more liable to it than others. Out of fifteen cases of vaginal enterocele, made public by Hoin, thirteen were in persons who had been confined a few days beforehand; however, the affection has been noticed in women who had never been confined.

The *occasional causes* of this hernia, which, however, may be formed in a slow and gradual manner, are, in general, a fall upon the buttock, an effort to raise a heavy burthen, at stool, and, indeed, almost all the occasional causes of the other modes of displacement. Where a vaginal enterocele has been suddenly produced, the patient feels as if something was descending along the course of the vagina, and a pain, greater or lesser, that spreads throughout the entire abdomen. The tumour from this hernia, which is commonly not troublesome, unless it becomes very large, is of a soft consistence, and is partially effaced or wholly disappears when the patient lies down. On the contrary, it becomes larger, harder, more tense, and presents a larger base, is of a round or oval shape, and in some instances appears to jut at the vulva, while the patient stands up or makes any muscular effort. In a word, the vaginal enterocele exhibits all the general characters of the other kinds of hernia. By carrying the index to the os tincæ, it is found free and in its natural position. This circumstance, added to the absence of any opening in the tumour, and the other signs enumerated, prevent us from confounding a vaginal enterocele with any other tumour developed in the vagina.

* Mém. de l'Acad. de Chir., t. ii.
† Recherches sur la Hernie. Mém. de l'Acad. de Chir., t. ii.
‡ Nouvel Méthode d'Opér. les hernies, 1767.
§ Essai sur les Hernies rares et peu connues, 1767.
‖ Von der Brüken, &c., translated by Rougemont, 1799.
¶ Ratio Medendi, t. i. loc. citat.

When the displaced portion of bowel penetrates betwixt the bladder and the womb, the hernia appears at one of the sides of the anterior surface of the vagina near the os uteri; but it is upon the posterior surface of the canal, when the gut has fallen down between the rectum and the womb. In the latter case, the tumour is often found to extend down to the vulva, or even outside of it, pressing the perineum outwards and compressing the extremity of the rectum, so as to render the expulsion of the fæces very painful.

The thinness and weakness of the walls of the vagina, the great size of the pedicle of the tumour, that is to say, of the communication of the hernial sac with the abdomen, always admit of the return of the intestine and omentum, and, to a certain degree, render it impossible that vaginal enterocele should be liable to strangulation. Nevertheless, from the cases of Smellie and Dehaen, it seems that the pressure of the gravid uterus may cause such an accident to happen, which it is difficult to overcome in a case where the tumour is of considerable size.

As a remedy for this kind of strangulation, in case the reduction should be found impossible, of which no example has been hitherto found, it has been recommended to cut down, upon the most salient point of the tumour, and then dilate the opening by which the bowel ought to be returned, with Leblanc's instrument for facilitating the reduction of displaced parts. Some surgeons have supposed that an incision ought to be made into the abdomen, so as to permit the parts to be disengaged by coming at them through such opening: and, lastly, where a vaginal enterocele is found to be omental and pedicellated, it has been recommended to tie up the root with a ligature; but it is very difficult to determine, *à priori*, which of these three surgical measures is best adapted to ensure success. To decide this question, we must necessarily wait until experience and the candid observation of cases shall suffice to remove all uncertainty on the subject.

Under these difficult circumstances, the possibility of which, though never yet met with, is admitted, the conduct to be pursued is uncertain; but such is not the fact with regard to the great majority of the cases. Indeed, the treatment of vaginal enterocele is very simple and well understood, consisting, as in all other hernias, in reducing and in keeping the tumour reduced.

For the reduction, we begin by evacuating the rectum with injections; and then, placing the patient on her back, with the head and trunk lower than the pelvis, and the thighs flexed, we introduce two of the right hand fingers, well anointed, into the vagina. The position of the pelvis should be changed so as to make the womb press as little as possible upon the tumour, which should now be gently compressed so as to cause it to return, little by little, until the whole has passed back into the abdomen. Should the tumour have passed out through the posterior-superior part of the vagina, the patient, instead of lying upon the back, ought to be on her knees upon the mattress, with the head lying upon it. When the hernia is reduced,

it should be kept so by a cylindrical pessary, maintained in sitû with a T bandage.

Previously to closing these remarks, let us add that emollient fumigations, directed into the vagina, and also oily injections into the part, before proceeding to the above manœuvres, will greatly facilitate the reduction of a vaginal enterocele.

[I recently attended a woman in labour with vaginal enterocele, an account of which was published in Professor Huston's *Med. Examiner*, of Oct. 5, 1844, and which I transfer to these pages, as a case interesting from its rarity.

Mrs. R., aged about thirty years, the mother of four children, all of whom were born by easy, natural labours, and one of them in a labour of two hours, was seized with the parturient pains at half past eleven o'clock last night. She was at full term, and in good health, save that she had complained much of an unusual pain in the right side of the abdomen, and particularly in the right iliac region.

Her physician, Dr. Bicknell, was called to the charge of the case. Dr. B. discovered a tumour occupying the cavity of the pelvis, which impeded the progress of the labour. The woman's pains were frequent and violent, and attended with the most excessive tenesmic effort at bearing down. Dr. B. invited me to see the patient; and I arrived at 2 o'clock, P. M., at her house in West Philadelphia.

The external parts were in a relaxed state. The index finger used in touching, was pressed towards the symphysis pubis by the tumour, which seemed nearly to fill up the pelvic cavity and effectually to debar the head even from engaging in the superior strait, though the labour had continued already fourteen and a half hours, in the case of a woman who, in other labours, was occupied but two hours with the whole process.

I could just conveniently touch the presenting part of the head, which was in the fourth position of the vertex presentation. The os uteri fully dilated.

The tumour was compressible. I touched by the rectum, and so discovered that the tumour was in the peritoneal cul-de-sac, betwixt the rectum and vagina, but distending that cul-de-sac enormously. The diagnosis could be nothing else, considering the softness of the swelling, than a vaginal enterocele, which I immediately proceeded to reduce.

The woman was placed on her left side; the knees drawn up. I introduced all the fingers of the right hand into the passage, and pressed the ends of them against the lower part of the tumour. By keeping up the pressure a short time, during which I repeatedly exhorted the woman to be passive, and not to bear down at all, I could cause the whole mass of the swelling to rise up towards the back part of the superior strait. As the mass ascended, it grew smaller, until, on a sudden, the whole tumour slipped beyond the reach of the hand, and was lost. I announced this good fortune to the

patient, and exhorted her not to bear down at all with the approaching pain, lest the gut should again prolapse. The pain that ensued brought the head nearly through the superior strait, and partially rotated the vertex. The second pain rotated the head, and propelled it on to the perineum; the third brought the vertex considerably beyond the pubic arch, and the fourth expelled a very large and healthy child; after which the placenta came off in a few minutes.

I look upon this as a very interesting case, not merely on account of the rareness of vaginal enterocele in the pregnant female, but as exhibiting the power of such a tumour to suspend and impede the progress of a labour in all other regards natural and healthy.

I presume, as so many hours had already elapsed in vain and exhausting efforts by a strong woman, that there was reason to fear a dangerous strangulation or contusion of the displaced bowel; and that it was fortunate for the patient that the intestine could be returned above the plane of the strait. The rapidity with which the head passed through the whole pelvis and the soft parts, as soon as the obstruction was removed, showed conclusively that the vaginal enterocele was the cause of her distress. As I have never met with such a case before, I thought that the publication of it might prove useful to some of our readers, should one of them happen to meet hereafter with a similar instance of difficulty.—M.]

## VULVAR ENTEROCELE AND CYSTOCELE.

Enterocele and cystocele of the vulva,* are tumours formed in one of the labia, either by the descent of an intestine, or of the bladder of urine. In this kind of hernia, the displaced parts descend along side of the vagina, without distending its walls, and advance betwixt its lower extremity and the ramus of the ischium into the middle of one of the labia pudendi, where they constitute a round, firm tumour, of greater or less magnitude. This tumour both raises up the skin externally, and projects inwards into the vulva, and, prolonging itself on either side of the vagina, is found to become harder and more tense when she coughs or bears down, while in a standing position. It is often the seat or radiating point of pain, augmented by violent exercise and diverging towards different parts of the abdomen.

This kind of displacement was first described by Sir Astley Cooper, who denominated it a *pudendal hernia*, translated by the French into *vulvar hernia*. Since the publication by the celebrated English surgeon, Scarpa,† whose recent loss is so universally deplored, met with two instances of it in his practice. One was also noticed by Profes-

* From a case of vaginal cystocele, dissected by Mr. Burns, of Glasgow, it would seem that one side of the bladder, or even both at once, where they join the vagina, may descend separately along the canal and force a passage even into the substance of the labia, where the hernia appears as a round tumour, which partially disappears upon the emptying of the bladder. The middle portion of the bladder may also pass through the front of the vagina, and appear as a tumour at the ostium vulvæ.

† Archives Générales de Méd., t. i. ann. 1823.

sor J. Cloquet, at the hospital St. Louis; and another was seen by Dugès,* in a young girl, who was supposed, by a midwife, to be labouring under prolapsus uteri.

Examples of vulvar cystocele have been still more rarely met with. M Bompard published the first case; but up to the present time no one has discussed and ascertained its real nature, save M. Hartmann.

The treatment of the affection consists in effecting its reduction, and in keeping it reduced. For this end, the woman should lie upon the back, the hips and shoulders being raised by pillows so as to relax the abdominal muscles; and with the thighs properly flexed and separated. Having introduced the right index into the vagina, when the hernia is on the right side, and the left one if it is on the opposite side, the operator being seated in front of the patient will gently compress the tumour along one side of the vagina, and embracing, with the fingers of the other hand, the projecting part of the tumour in the labium, he will push it backwards towards the excavation of the pelvis in a direction parallel with the vagina. The tumour will be known to be reduced by the void that it leaves in the labium, and the corresponding part of the vagina.

For the prevention of a new displacement, recourse should now be had to the adjustment of a pessary *en bondon*, or what is still better, a conoidal pessary, the base upwards, to be retained by a T bandage.

A vulvar hernia is, like other species, liable to strangulation; but both Sir Astley Cooper and Scarpa, who met with the accident, succeeded in effecting the reduction by the mere taxis. However, as a less fortunate instance might occur, where the cutting up of the stricture might be found indispensable, we are of opinion that the following method should be pursued in the management of such a case. After placing the woman as before directed, an incision should be made parallel to the ramus of the ischium; that is to say, the incision of the stricturing edge should be in a direction backwards, and somewhat obliquely outwards—or forwards and somewhat inwards—by so doing we should avoid wounding the vaginal artery, which must be within the sac, and the pudic which is situated outside of it. Let us add, that the chief inconvenience arising from a vulvar hernia consists in a diminution of the size of the vagina, one of the sides of which projects inwards in conformity with the magnitude of the displaced viscera. This, at least, is what was ascertained from the case of the girl mentioned by M. Dugès, and which we just now referred to.

## OF INVERSION AND SWELLING OF THE LINING MEMBRANE OF THE VAGINA.

Under this title have been improperly included various displacements, such as cystocele and enterocele of the vagina, the inversion accompanying prolapsus uteri, and various other hernias that differ essentially from each other, and possess nothing in common beyond the saliency of the lining membrane of the vagina into its canal, or

* Traité des Mal. de l'Utérus par Madame Boivin and M. Dugès, t. ii., 599.

betwixt the labia pudendi. It is important, therefore, to determine precisely what is to be understood by prolapsion, *or fall of the vagina*, so as to avoid all confusion likely to make the diagnosis more difficult, and add to the obscurity of its description and study. By fall of the vagina, then, nothing more is meant than an affection analogous to fall of the rectum; that is to say, an inversion of the internal lining membrane, caused by infiltration of the cellular texture that unites the mucous to the subjacent membranes.

Falling of the vagina is distinguished into *complete* and *incomplete;* in the former, the tumour projects more or less beyond the vulva, while in the latter case, it merely appears to be prominent within the ostium-vaginæ. It has also been divided into *universal* and *partial,* accordingly as the tumour is formed by the whole circumference of the vagina, or simply by some portion of the lining membrane, as frequently happens, especially as to that upon the anterior surface of the canal.

The *predisposing causes* are a lymphatic temperament, a profuse chronic leucorrhœa, a frequent repetition of the act of parturition, and of abortion; the abuse of hot baths, and of relaxing drinks; an habitual bad nutrition, and all the causes of debility and cachexy.

Among the *efficient causes* of falling of the vagina, should be enumerated *abusus coitûs;* masturbation; the friction and compression of the walls of the vagina by the head of the child in labour, or by the accoucheur's hand or his instruments during an obstetric operation. It may also be brought on by the causes common to all the species of hernia, such as external violence, efforts at lifting heavy weights, or in the expulsion of the fæces; and, in fine, the shock of a fall, of leaping, of laughing, sneezing, coughing, and particularly of vomiting. It has been produced by the blow of a cow's horn, which struck upon the vagina. Professor Désormeaux, who relates the case, says that mostly in women, about the change of life, a partial falling of the vagina is caused by chronic inflammation, whose origin is to be sought in some herpetic taint, but that it is sometimes impossible to discover the real cause.

The symptoms of falling of the vagina vary in proportion to the extent of the displacement, and the degree of the inflammation. In a partial but simple prolapsus, the tumour is rounded, or it is double, or it forms a circular cushion, accordingly as the descent implicates both the anterior and posterior walls, or extends to the whole surface of the tube. When the woman is on foot, or seated, she has a feeling of weight and uneasiness about the ostium vaginæ and at the fundament; dragging sensations in the lumbar region, and various inconvenient feelings, that partially vanish after lying down a few moments. Where the falling is complete, to the symptoms now mentioned are added a discharge of puriform mucus, and obstinate constipation, with a sort of urinary tenesmus, and even positive strangury. The action of the urine on the surface of the tumour protruded beyond the vulva, and the friction of the part produced by exercise in walking, often cause a severer degree of inflammation, painful excoriations, a sense of tension extending towards the region

of the kidneys, or even gangrene, from the great swelling and strangulation of the tumour at the point where it issues from the vulva. Heister relates a case that shows that gangrene may follow upon fruitless manœuvres made for the purpose of reducing a vaginal prolapsus; and Loder, in his journal, quotes a case from Stoeller, going to show that calculous concretions may be deposited from the urine in the infiltrated mucous tissue of the prolapsed vaginal membrane.

This disorder not only proves very troublesome and obstructive during labour, but may even become dangerous. Piesch* states that in such a case the tumour projected five inches; and the position of the child having rendered it necessary to turn, the consequence was a laceration, from which, however, the woman soon recovered. Loder† informs us that, in another case, the vagina fell every time the woman was confined, and made a tumour as large as a man's head. The accoucheur always succeeded in extracting the child with the forceps, taking care to support the prolapsed parts. Where this is found to be impossible, Richter‡ advises that an incision be made upon the lateral part of the procident tumour, and adds that such an operation is to be less dreaded, inasmuch as the vagina has, in similar circumstances, been ruptured without any serious consequences.

[I had a case where the vagina prolapsed at least five inches, and was as large as my arm. When labour came on, it was drawn within the vulva, and the child was soon safely born.—M.]

Where the inversion is complete, the shape and volume of the tumour vary in some instances so greatly as to render the diagnosis extremely difficult. Bartholin,§ Hagendorn‖ and Schacher¶ report some curious instances in point; and the last-named author quotes Widman for a case of prolapsion of the vagina, which, from its pyriform shape, was mistaken for a prolapsus uteri, until it was discovered, upon dissection, that the tumour was formed by the internal lining membrane of the vagina. To avoid making such mistakes, it is only necessary to reflect, that in complete inversion, the tumour, of a reddish colour, of an oval or cylindrical shape, and soft consistence, has circular rugæ or wrinkles, and is thicker at its lower part than anywhere else. It should also be remembered, that in the centre of the projecting mass is a hole large enough to admit the finger, which, upon passing upwards sufficiently far, encounters the os uteri.

The *prognosis* of the disorder in question is generally not bad, though it is rare to obtain a perfect cure, where the prolapsion is complete, and particularly where the whole circumference of the vaginal membrane composes the tumour. Yet such a fortunate result has been known to succeed to an inflammation brought on by the presence of a pessary in the vagina. Moraud has reported such an

* Journal de Méd., t. iii. † Journal, t. i. 490.
‡ Biblioth. und Aufang. der Wundaetzn, b. vii. cap. iv.
§ Casus Pudendi Mulieb. monstrose conform., centur. v. hist. 9.
‖ Procidentia Uteri instante partû, cent. iii. obs. 3.
¶ Prog. de Prolapsu Vaginæ Uteri.

instance in the memoirs of the *Academy of Surgery*, and Schacher (*De Prolapsu Vag. Uter.*) makes mention of a woman who, for the cure of an inverted vagina, introduced within it a small porcelain cup, which remained a year in the part, and was extracted with severe distress, and then not until it was broken to pieces, so violent was the inflammation which it excited; but this occurrence, at first deemed so prejudicial to the woman, effected a perfect cure, which had by no means been looked for.

The *treatment* in simple, incomplete prolapsus, consists in the use of antiphlogistics, especially as local applications, and continued until the inflammatory symptoms are overcome. Should there be some special cause of the inflammation, and dependent on a state of the constitution, recourse should be had to an appropriate treatment; and, indeed, such is the only state in which general remedies are of any use. Whether the treatment may have begun with the reduction of the tumour, or whether it may have been deemed preferable to wait—a better plan—until the local phlogosis and swelling have disappeared, we should, in this stage, merely make use of tonic and astringent lotions and injections. A decoction prepared conformably to the following formula, perfectly fulfils the indication:

Take of yellow-bark, in powder, and of oak-bark, bruised, of each three drachms; boil them in half a bottle of claret; add of sulphate of alumina two drachms, and filter the liquor.

This mixture should be used at first, diluted with an equal quantity of water; then a third, and afterwards a fourth part of water, and, at length, without any dilution. To add to the efficacy of the remedy, recourse might be had to exutories, and particularly to the formation of small issues; or to some moxas to the sacrum, as practised by Baron Larrey. Except where the relaxation is excessive, under a well-managed treatment of this kind, the use of the pessary, to support the membrane, would be rarely found necessary.

In a complete falling of the whole circumference of the vaginal membrane, the reduction should be effected as soon as possible, always taking care, by proper measures, to combat the inflammation and swelling, before we attempt to replace the parts in their natural position. Any prospective relaxation and displacement of the membrane should be counteracted, not only by the employment of tonic and astringent lotions, such as we have above mentioned, in speaking of partial and incomplete falling of the vagina, but also by the introduction of sponges, impregnated with the same liquid, or by small sachets filled with the ingredients of the lotions in question. A pessary also may be adjusted, properly adapted to the form of the vagina, and left in sitû until some slight inflammation has been excited, as in Schacher's case, before cited, and which might serve to procure a radical cure. Should the prolapsed membrane exhibit large gangrenous eschars, the scarifications recommended by Heister* could be productive only of benefit. In such a case, and, indeed, in all cases, the system ought to be invigorated by the use of cold acidulous chalybeate waters, as those of Passy, Spa, Forges, &c.

* Inst. Chir. de Vulvæ Procidentia, t. ii. cap. cxlviii. p. 1032.

Where the disorder is of long standing, the tumour sometimes becomes irreducible, or, at least, its reduction is very difficult, for the prolapsed membrane grows hard, and becomes the seat of excoriations and even of ulcerations. Under such unfavourable circumstances, we ought, as far as possible, to endeavour to lessen the pain and distress by advising her to support the displaced parts with a compress, spread with opiated cerate, kept in place by a suspensory and a T bandage.

The celebrated accoucheur Levret,* and also M. Hoin,† of Orleans, inform us that by rest and the dorsal decubitus, they succeeded so far in reducing a tumour that projected to the distance of seven inches, that after a month, under the treatment, the remainder of the tumour was reduced. Richter‡ advises the reduction of the vaginal prolapsus, where the case is a difficult one, by the method followed by some authors, in treating large omental hernias. This consists in making the woman lie on her back, with the thighs drawn somewhat upwards, and then keeping up a gentle compression of the tumour, while a long course of diet is prescribed, with the administration of mercurial purgatives.

M. Dieffenbach, instead of resting content with merely reducing the tumour and keeping it reduced by means of a pessary, supposed that Dupuytren's plan for treating prolapsus of the rectum might be adopted.

That distinguished Berlin surgeon, after reducing the tumour, exscinds, by means of a forceps and scissors, all the loose folds of the inner surface of the labia pudendi. The operation, which is easily performed, should be so conducted that the folds, as they are removed, should constitute so many radii converging to the centre of the vagina, so as to allow the upper end of each one to terminate about one inch within the orifice of the canal. The after treatment consists in merely cleansing the parts once a day, or if it be deemed desirable to make them suppurate, in introducing a fascicle of lint, the base of which, being divided into rays, would furnish a small fasciculus to each one of the little incisions. The end proposed in this operation, is to contract the ostium vaginæ, which thus acquires the desirable resisting power. To arrive at the same result, Messrs. Marshall and Heming have successfully adopted a mode that consists in exscinding a large elliptical lamina of the mucous membrane, and immediately uniting the wound by suture. This mode, both difficult and painful, appears to us less suitable than Dieffenbach's.

Should the patient absolutely ask to be relieved of her disgusting deformity, where the reduction is impossible from the transformation and degeneration of the tumour, there is no other method of proceeding than the amputation of the extensive mass of membrane, which, according to Stalpaart Van der Wiel,§ J. A. Meckren,‖ and other writers, has been successfully done in similar cases. In deciding upon

* Mem. de l'Acad. de Chir., t. ii.
† Essai sur les Hernies rares et peu connues.
‡ Biblioth. und Aufang. der Wundaetzn, b. vii. cap. iv.
§ Observ. Rariores Medecin., t. ii. ‖ Observ. Chir., obs. 45.

this extreme measure, as in M. Bérard, jun.'s, instance,* it would be requisite, previous to any operation, not only to make sure of the state of the bladder and rectum, but also to endeavour to learn that the vagina alone is prolapsed, and that the womb is not comprehended in the mass. And lastly, Boyer's advice should be followed, not lightly to resolve upon this operation, which is far from being free from danger.

We may not close this article without remarking, that a falling of the lining membrane of the vagina must not be confounded with invagination of that canal; a case whose character is displayed in the following chapter.

## INVAGINATION OF THE VAGINA.

Invagination of the vagina consists in a displacement of the upper parietes of the tube, which, being gradually carried downwards by the womb, in a prolapsed state, become intussuscepted in a part of the vagina nearer to the vulva. There are different stages of this prolapsus that it is well to explain. In the first stage we find, at the orifice of the vulva, a sort of cushion, in irregular folds, more or less protruding, in the centre of which, upon Touching, we find the os tincæ, which is always, in this stage, lower than natural. The softish red circle, formed by the invagination of the superior portion of the vagina, is found to be less projecting and voluminous after some time resting in a horizontal posture, but it increases and becomes far more apparent in a vertical posture, giving rise not only to a distressing weight about the groins and hypogastrium, but also to a painful tenesmus and dysury, proceeding from the change in the direction of the urethra.

In the second and third stage, the tumour, now more elongated and cylindrical, exhibits, as it does in the first, an irregular opening at its lower end, the orifice of a narrow passage, at the bottom of which is the os uteri.

In some cases of invagination of the vagina, the neck of the womb is found to be considerably elongated, but it is a difficult matter to decide which of these lesions is the cause of the other. In fact, if we may, on the one hand, suppose the elongation and hypertrophy of the cervix to be the cause of the uterine prolapsus and consequent invagination, we may, on the other, aver that the cervix has become elongated since the occurrence of the prolapsus, by extending gradually in a direction wherein it met with no resistance; the body of the organ being meanwhile retained at a certain elevation by its natural ligaments and attachments.

The vaginal invagination is generally looked upon by modern authors as a lesion secondary to, and symptomatic of, the prolapsus of the womb, which is its determining cause.

Where the complaint is of long standing, and especially if the woman has, for a long time, had no assistance, the cushion becomes

* Velpeau, Eléments de Médecine Opératoire, t. iii. p. 580.

engorged, the tumour is elongated and acquires a harder consistence, but still has an opening below, through which the menses are discharged as if through the os tincæ at each menstrual period. In fine, the projection formed by the invagination resembles, in shape and colour, the cervix of the womb when completely prolapsed, so much so, indeed, as to have deceived several practitioners, among whom I may mention the names of Bartholin, Widman, and Job a Meckreen. It is unnecessary to observe, that with the least attention, it is easy to avoid falling into such mistakes.

Invagination of the vagina differs from the tumefaction and fall of the lining membrane, in this, that it can only commence at the superior extremity of the canal and near to the collum uteri, while the inversion of the mucous membrane may occur at any part of its length. In invagination the finger is carried up to the womb, and ascertains that the bottom of the vagina, being doubled on itself, or folded, still accompanies the womb, which is always displaced; in the other case, or prolapsus of the internal coat, the index, when introduced betwixt the cushion and the circumference of the opening, is arrested by the fold composed of the relaxed mucous membrane as it descends, in order to escape through the os externum. Finally, invagination always accompanies prolapsus uteri, whereas, inversion of the membrane is generally independent of any uterine displacement.

The tumour arising from the lesion under consideration is liable to become inflamed, to ulceration, and the consequences that may flow from such affections. The means of preventing or remedying these evil consequences, are, as soon as possible, to replace the prolapsed parts, and keep them reduced by a pessary; and the other resources we have already pointed out in our remarks upon falling of the womb. By curing the disorder just mentioned, we put an end to that of the vagina, which is the consequence of it.

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# SECTION THIRD.

## CHAPTER VII.

### PHYSICAL LESIONS.

To facilitate the study of the physical lesions of the external and internal genital organs of the female, we divide them into three classes, which are:

1. Contusions, wounds and lacerations of the vulva, perineum, vagina and uterus; ruptures of these organs; and finally contusions and wounds of the mammæ;

2. Vesico-vaginal, utero-vaginal and recto-vaginal fistulas;

3. The accidental introduction of foreign bodies into the genital cavities.

## CONTUSION OF THE LABIA MAJORA.

From their situation at the inferior extremity of the trunk, the external sexual parts which protect and circumscribe the vulva, to wit, the mons veneris, the labia majora and the perineum, are exposed to contusions, to wounds and to lacerations which may result either from a fall, from a wound, or a blow; from the first attempts at sexual intercourse; or from the effects of criminal copulation. The disorders depending upon the latter cause are the more severe in proportion to the resistance the female has made; the disproportion between the genital organs of the two sexes; whether the violence have been exerted upon a virgin girl; and especially whether she be still far from her full development.

The loose texture of the cellular tissue of the labia majora causes these two folds frequently to become the seat of ecchymoses and sanguine infiltrations, developed under the influence of the causes which we have just enumerated, and most frequently after a more or less laborious labour. Assisted by the depending position of the vulva, the tumefaction soon becomes considerable, and the parts assume a livid, a deep violet, or almost black colour; yet it seldom happens that the contusion is severe enough to determine gangrene; it frequently does not even form an abscess, and then we find the extravasated blood become rapidly absorbed, and the swollen organs soon regain their natural colour and volume.

When the contusion is slight, and produces only a simple ecchymosis, we should restrict ourselves to the employment of some resolvent topical application, such as compresses wet with Goulard's extract, or even with cold water alone, to which we might add for every glassful of the fluid a spoonful of vinegar or Cologne water. In order to retain these resolvent applications, and especially to aid their absorption, we may have recourse to steady pressure made by means of a bandage fitted to the parts.

If the contusion have been violent, and especially if there results from it a considerable effusion of blood, we should order an application of leeches around, but not on the ecchymosed spots; and afterwards follow the same plan as we indicated above. Where compression has not been used in the beginning, or where it cannot be borne on account of the pain it produces, we have a good substitute in the use of resolvent and emollient cataplasms, made of rice flour boiled in decoction of marshmallow, or of flax-seed meal and infusion of roses, with the addition of a little red wine or a teaspoonful of lead water. The first of these cataplasms, which should be enclosed in gauze, is commonly preferred by the patient, because it does not soil their linen, and the parts upon which it is applied.

The employment of all these remedies should be suspended, if the tumour, having rapidly acquired greater size, were to become the seat of inflammatory symptoms announced by more acute pain, by uniform redness, by heat and tension of the skin. Recourse should

then be had to emollient and maturative applications, in order to favour the suppuration about to be established, and which is manifested particularly by rigors and by increased pain. When fluctuation has become evident, the tumour should be freely opened in order to give ready issue to the blood and pus. The after treatment should be like that employed after the opening of other abscesses; that is to say, the use of emollient cataplasms, and when the signs of inflammation have nearly disappeared, the use of mild discutients, in order to hasten the disengorgement of the part and the cicatrization of the wound.

### OF RUPTURE OF THE PERINEUM AND THE MEANS OF REMEDYING IT.

Though the wounds and lacerations which may result from the action of cutting or puncturing instruments upon the labia majora, require for their treatment only the means employed for wounds in other parts of the body, there is one kind of solution of continuity to which these two pudendal folds are much more frequently exposed, and which, for this reason, requires us to treat of it more in full. The lesion to which we refer is the laceration of the posterior commissure of the labia majora, which takes place sometimes in the most natural labours, but much more frequently when the woman is delivered without assistance, or after imprudent operations,* or awkward attempts at traction with the forceps.

When the laceration is confined to the fourchette or posterior commissure of the vulva, the accident never produces any serious consequences, because, by means of rest, and by bringing the thighs properly together, the reunion and cicatrization of the parts soon occur spontaneously; sometimes, indeed, the same thing happens from the efforts of nature alone, even when the laceration has extended far upon the perineum.

Unfortunately, the same result does not follow when the sphincter of the anus and the rectum are comprised in the solution of continuity. The edges of so extensive a division being always irregular, dentated and puckered, as it were, unite with difficulty by the first intention: besides, the constant flow of the lochia acts to prevent it; whence it happens that the surfaces of each lip of the wound, after having suppurated for a long time, end by cicatrizing separately, and the opening of the vulva is thus enlarged in proportion to the extent of the laceration. The solid and liquid matters now escape involuntarily, and the absence of the support which the perineum lends to the neighbouring parts, becomes a cause of procidentia of the vagina, or of prolapsus of the womb; finally, this disgusting infirmity not only renders the woman insupportable to herself, but often gives rise to conjugal difficulties which may have the most unhappy consequences.

* Dr. Boudet (Thèses de la Faculté de Méd. de Paris) reports cases of rupture, or rather of division of the perineum, by means of a sixpence. This method, as absurd as barbarous, was employed by an ignorant midwife, for the purpose of augmenting the diameter of the vulva, and thus facilitating the escape of the child.

To prevent, as far as possible, the terrible accidents which we have just enumerated, it is necessary to support the perineum with the hand at the moment that the head of the child distends the vulva, in such a way as to force the head to rise towards the pubis, but not to prevent its descent. It is equally important, as soon as the parietal protuberances have passed beyond the tuberosities of the ischia, to tell the woman to moderate her expulsive efforts, particularly if the labour be rapid, and not to *bear down* more and more, as is recommended so mal-à-propos by the old women, by the midwives, and by most obstetricians. It is at this stage of the labour that the parts, in some sort *surprised*, give way because the head, too violently propelled, does not permit them to yield so rapidly and to mould themselves upon it. The chances, therefore, of preserving the perineal septum in its integrity, will be the greater, in proportion as the vulva has been traversed more slowly. If it be not in the power of the obstetrician wholly to prevent this kind of laceration, he can always prevent its extending too far, which is extremely important.

[The direction to support the perineum above given is insufficient; it should have been more explicit, as I am convinced that the instruction in the medical schools does not fully inform the young practitioner of the motive for the rule. The direction ought to be, to press the perineum in such a way as to make the head turn upwards in front of the symphysis in proportion as it emerges more and more from the pelvis. It should be to cause the head, by supporting it, to move in coincidence with Professor Carus' circle. Now, Carus' circle, is a circle whose radius equals the semi-diameter of the pelvis, measured from front to rear. To draw this circle, take a pelvis and saw it through at the pubis and sacrum so as to divide them vertically. Set one leg of a compass on the posterior margin of the cut surface of the symphysis, open the other leg to half the diameter of the excavation, and with that leg describe a circle in the pelvis. This is Carus' circle, and it indicates the curved axis of the pelvis. It is along this axis that the centre of the head moves as it is born; and to hold the perineum, means, to make it move until it is born, in coincidence with that line. When this is properly done, lacerations of the perineum rarely occur.—M.]

Cases have been seen of women delivered without aid, in whom the child has passed through an opening in the perineum, without lesion of the fourchette or anus. Professor Moreau, who has treated of this subject before the Academy of Medicine, affirms that the annals of science contain more than thirty facts of this kind well established, and observed some in France, others in foreign countries.* M. Deneux† has likewise reported the case of a woman in whom the placenta was extracted through the perineum, the vulva scarcely permitting the introduction of the finger; in another female, after a rupture of this kind, there existed a prolapsus of the uterus

* Séance de l'Académie de Médecine du 16 Octobre, 1832.
† Séance de l'Académie de Médecine, même jour. et même année.

through the perineal opening: finally, in the early part of October, 1832, we saw at the Hotel-Dieu, at Paris, Salle St. Jean, No. 1, a woman who had been spontaneously delivered, in whom the escape of the infant at term had taken place through a laceration of the perineum, without lesion of the posterior commissure of the labia majora or of the anus. The labour had lasted only four hours; the symphysis and the pubic arch were properly formed.

It has sometimes happened even when a central perforation of the perineum has been produced, that the fœtus has nevertheless passed out through the vulva, the edges of which have remained perfect. Madame Lachapelle, who has seen and reported several such cases, assures us that if the women had not been uncovered, and the sexual organs exposed to view, she might have supposed that the child had passed through the perineal rupture; and she thinks it probable that the same thing has occurred in the greater part of the cases reported by authors. Yet, notwithstanding the opinion of Madame Lachapelle, we cannot doubt that the fœtus has sometimes been expelled through the central laceration of the perineum. Professor Delpech saw this rupture take place at the left and posterior side of the vagina, and extend along the base of the external labium of the same side, which was in this way detached from the pubic arch; the vulva being forced to the right, the delivery took place through the accidental perforation.

[My colleague, Professor Mütter, informed me that he saw a case about three years since, in which the child's head had passed through a lacerated perineum, and the head being delivered, the attendant could not bring down the shoulder. The professor being called in on account of the difficulty, divided the anterior band or edge of the perineum, whereupon the fœtus was immediately born.—M.]

Sometimes the laceration extends towards one of the thighs, and exhibits the form of a capital L; in other cases it extends towards both thighs at the same time, and assumes the form of the letter T. Solutions of continuity of this kind usually suppurate, and terminate most generally by spontaneous reunion, forming a solid cicatrix. Such has been the result in the cases of this kind, observed and reported by Denman, Baudelocque, Désormeaux, Delpech, Dupuytren, Madame Lachapelle, and some other practitioners.

The custom, which is so common, of placing a great many pillows under the head and shoulders of women, during the progress of labour, is one of the causes which contribute to the laceration of the perineum. It happens in this way that the trunk, assuming a nearly vertical position, the weight of the child, and particularly its head, compresses the perineal septum very strongly, and the expulsive efforts of the womb are sometimes sufficiently powerful to force the perineum to yield by bursting it, and in this way overcoming the arrest which existed in consequence of the vicious position of the female.

This unfortunate accident, which occurs with great facility in women in whom the orifice of the vagina is placed very much in front, and almost on a level with the bones of the pubis, might generally be avoided by keeping the trunk and head of the female in an almost horizontal position, and by sustaining the perineum during the whole of the labour in such a way as to lift the child's head upward in the direction of the symphysis pubis.

When it has proved impossible to prevent the laceration of the perineum, we should seek to obtain the reunion of the edges of the wound by causing the patient to lie upon her side, and by recommending her to keep her thighs approximated and always in the same position. Though this means be often without avail, we should never fail to put it in practice, because it has sometimes been followed by the reunion of the whole, or at least of a portion of the laceration; an instance of which M. Sedillot, jr., has reported.* When these precautions and first attempts at reunion fail, and, especially, when the cicatrization of the lips of the wound is complete, there remains a resource, which is sometimes successful, consisting in the reunion by several points of suture. This operation, already performed with success, by Forestus,† Delamotte,‡ Trainel and Noël,§ Saucerotte,‖ Asdrubali,¶ Dupuytren,** Montain,†† Emile Barthélemi,‡‡ Dieffenbach,§§ and lately, by M. Vidal de Cassis,‖‖ has been fully introduced into surgical practice, through the brilliant results obtained by Professor Roux, which we are now about to report very succinctly.

The first patient of whom we shall speak, is the wife of a distinguished physician in a small provincial town, who had already been operated upon, without success, for a laceration of the perineum communicating with the anus, the result of a labour terminated by the forceps. The first operation was performed in the month of January, 1832, with the twisted suture; but the union, which had at first seemed complete, was only apparent; for the perineal division soon recurred as before.

This failure discouraged neither the patient nor her husband, and a new attempt was resolved upon, with still greater care, and with a modification of the mode of operating. M. Roux, to whose care the lady had been confided, having reflected upon the causes of the failure of the first operation, thought that the greatest obstacle to reunion was the impossibility of bringing the deep-seated parts into exact contact with the twisted suture, and that under such circumstances

* Recueil périodèque de la Société roy. de Médecine de Paris, tom. vii.
† De Morbis Mulierum, page 759.
‡ Traité Compl. de Chirurg. cont. observat. 405.
§ Recueil period. de la Societé roy. de Méd. t. vii. p. 187.
‖ Idem. tom. iv. p. 117; Mélange de Chirurg., t. ii.
¶ Tom. ii. p. 248.
** Leçons Orales et Lancette Française t. vi. n. 102. p. 418.
†† Revue Médicale, année 1821, tom. v. p. 204.
‡‡ Lancette Française, t. vi. n. 104. p 427.
§§ Journal Complémentaire, t. 38. p. 193.
‖‖ Doctor Vidal de Cassis has practised, with success, in two cases, the suture of the perineum, by means of straight needles with handles, and by a simple and ingenious process, which we shall describe when speaking of vaginal fistulæ.

the quilled suture was preferable, because its action extended to a greater depth. In fact, curved needles take up more tissue; the ligatures penetrate deeper, and the pressure of the cylinders exposes less to danger of laceration, and is more equable; he had to fear, therefore, neither strangulation nor constriction of the edges of the wound; consequently, the chances of success were much greater. In the second operation, in which the edges of the laceration were freshened as before, two or three arterioles bled and were tied; four points of suture were placed so as to involve the parietes of the vagina, but to a very slight depth, in order to avoid eversion of the labia, which would have placed in contact two mucous membranes, which unite with the greatest difficulty; a gum-elastic bougie formed the cylinder, and the ligatures were strongly tied; the coaptation was now perfect upon the interior, but not on the exterior, where the edges of the wound formed a projection; the coaptation was made complete by means of five ligatures placed in the intervals; the ligatures were not cut, nor the needles removed, until six days had elapsed; absolute diet was prescribed, and the most assiduous attentions paid.

It was not until the twenty-second day that the patient went to stool, and passed fæces so consistent that it was necessary to aid the defecation by means of the fingers introduced into the vagina; but by this time, the cicatrix was sufficiently strong to resist the strain.

A puriform discharge appeared from both the vagina and the anus, but there was neither hæmorrhage nor pain.

There now remained only a small opening at the anus, which suppurated: a tent was introduced into the rectum; the consolidation was soon perfect; the raphe became linear and solid, but there remained a small recto-vaginal fistula, which, with difficulty, admitted the introduction of the extremity of the little finger. This fistula gave issue to some gas, without allowing of the escape of any stercoraceous matter. M. Roux heard, some time after, through a letter from the husband, that the journey, undertaken on the fifth day after first leaving the bed, had not occasioned any accident, and that the fistulous point which existed between the rectum and vagina had ceased to suppurate two months before, and was cicatrized. The patient recovered perfectly; her perineum presents the ordinary thickness and firmness, and the most practised eye could detect no trace of the operation. As soon as the suppuration had ceased, the sexual congress took place, at first with great care, and finally without any kind of precaution. This lady has regained her natural complexion and spirits.

This perineal suture (the first performed by M. Roux,) was the subject of a paper read before the Academy of Medicine, on the 30th October, 1832. The case is published in the number of the *Lancette Française* for the first of November of the same year.

The second case is taken from the clinic of La Charité. The woman who was the subject of it was Pauline Evrard, aged 22 years, a housemaid, and entered the hospital March 15, 1833, in No. 24 of the Salle Ste-Catherine.

This person, enjoying good health, having become pregnant in

1831, entered the Maternité a month before her delivery, where she had so laborious a labour that it was followed by the laceration of the perineum. Notwithstanding this infirmity, she again became pregnant; and her labour, though still difficult, was much less so than on the first occasion. Some time after this last lying-in, Pauline was admitted into La Charité, where, during the first eight days after her entrance, she was put upon very strict diet and the use of diluents. On the 22d of March a purgative was administered; finally, on Saturday the 23d of March, M. Roux proceeded to the operation, which was conducted in the following manner:

From the two surfaces of the wound a thin segment of tissue was removed, so that by approximating the two edges of the division, reunion might readily take place. Three sutures were introduced, one near the anus, another near the vulva, and the third between the two first. These three points each comprised a portion of the vagina, for the purpose of avoiding, at the same time, any gaping of the wound exteriorly, and any effusions of purulent matter upon the interior. To form the loops on one side, the ligatures were cut and tied, and between the two ends thus knotted, a piece of gum-elastic was placed and drawn tight by the other ends. Between these last, a second piece of gum-elastic was placed and tied with a knot. Two days after the operation, the patient had retention of urine, which required the introduction of a catheter into the bladder, which was left there; this allowed the urine to flow off as fast as it was brought to the bladder; but two days elapsed before it was deemed proper to solicit an alvine evacuation by the administration of a mild purgative dose of calomel, ten grains. The matters discharged passed altogether by the rectum, and not at all by the vagina, although, during a fortnight, the patient could perceive that in voiding gas, a portion escaped through the vagina. Pledgets spread with cerate, and introduced between the lips of the wound, in a short time entirely obliterated the communication which existed between the rectum and the canal of the vagina, and the fœcal matter, as well as the gas, escaped only through the anus. The patient recovered perfectly, the only thing remaining being a slight contraction of the orifice of the vagina.

If the suture of the perineum, which was performed with success by Dupuytren, twenty-five years since, (see our note, p. 77,) has frequently been employed without advantage, it is because, in the greater number of cases, the operation has been performed too soon. As it is very uncommon for the lips of the wound to be in a condition favourable to immediate reunion, it is much better to postpone the operation. We are so convinced of the advantage of waiting, that we fear not to say that success would be almost certain, if the operation could be deferred until suppuration had produced disengorgement and contraction of the edges of the laceration, and especially until the lochia were completely suppressed, or, at least, very much diminished. In fact, it is the escape of this fluid which more than any thing else hinders the reunion of the wound, and consequently the success of the operation, and it was assuredly this which pre-

vented the success of the operation for perineal suture, performed in 1832, by Dr. Guersent, jun.

The operation for reunion of a laceration of the perineum consists, then, simply in first freshening the cicatrized surfaces with a bistoury or with curved scissors, as was done successfully, ten years since, by Doctor Emile Barthelemi;* and then bringing the parts together with great accuracy by means of points of suture. The first should be placed towards the anus, the second near the vulva, and the others between these two. We may add, that in general, three sutures are sufficient, and that the time chosen for the operation should be as distant as possible from the menstruation; and that, following the example of M. Roux, the precaution should be observed of preparing the female for the operation, by restricting her for eight days before, to a strict diet and the use of diluents. It is also very important after the operation, to keep the bowels soluble and to maintain even a slight diarrhœa; for the effects caused by the expulsion of hardened fæcal matter have often led to failure of the operation, by causing laceration of the points of suture and of the incipient union.

From the operation not being performed for a long time after the occurrence of the accident, should the skin be too rigid to allow of the approximation of the parts, we ought, in M. Dieffenbach's manner, to make a deep incision to the right and left, so as to permit the surfaces to be brought into contact without stretching, though this may have seemed before quite impossible. Finally, if there be no chance whatever, by means of a surgical operation, we should seek to afford some relief to the patient by means of a plug placed in the vagina, or by some apparatus devised according to the circumstances of the case, and maintained by an appropriate bandage.

[The lacerations of the perineum are sometimes, when uncured, disastrous for the future peace and happiness of the sufferer: yet it is not so with every one, as I can testify from my knowledge of a case which I shall relate.

Many years ago, a lady here was delivered of her first child, with forceps, under the care of a distinguished practitioner, and suffered a frightful laceration of the perineum, from the effects of which she recovered her health after long and severe sufferings. She subsequently gave birth to two children, under the management of the same gentleman; after which I attended her in all her subsequent confinements, amounting to four.

Knowing nothing of the peculiar nature of her situation, as she was in active labour, I Touched the child soon after arriving, and discovered nothing extraordinary. Sometime later, as the waters had gone off, I Touched again, and was shocked to find that there were fæces in the vagina, which, at first, I felt disposed to assign to a recto-vaginal rupture, which might have occurred, as I supposed, during some one of the violent throes that she was experi-

* La Lancette Française, t. vi. n. 102, p. 418.

encing. The child was born, however; and, after the delivery of the placenta, I carefully examined the vagina. I now learned that what I had supposed to be a regularly formed vulva and vagina consisted of an opening extending from the posterior half of the anus to the anterior commissure of the vulva, or, what might very properly be called a cloaca; for the anterior perineum had wholly disappeared, and, along with it, all the anterior semicircumference of the lower part of the rectum, whose anterior margin I felt up within the cloaca, and lying near the sacrum. Under such circumstances, of loss of substance and structure, had she now borne three children, and has had three others since that time. I am assured by her that, except when she labours under some diarrhœa or looseness of the bowels, she has not the least trouble on account of this new state of the parts; discharging her fæces at regular and stated times, and with the same facility as a person in health might enjoy. Moreover, her health is good.

I take pleasure in stating this case, since it may enable us to offer some hope and encouragement to others who may chance to be affected in a similar manner.—M.]

## OF LACERATIONS AND OF RUPTURE OF THE VAGINA.

The vagina, as we shall see presently, is exposed not only to rupture during labour, but the walls of the canal are, moreover, subject to lacerations or perforations produced by wounding bodies or by external violence. Plazoni* cites the case of a young woman whose recto-vaginal septum was perforated by the violent efforts of a first copulation. Diemerbroeck† also mentions two young Dutch women who not only experienced the same accident, but who actually perished of hæmorrhage the first night of their marriage. Lacerations, not less considerable, have often been produced without hæmorrhage, by wounding bodies still more capable of determining dangerous consequences. We attended a young girl, aged seventeen years, who, while balancing herself with one of her friends on the trunk of a tree, had both the vagina and the bas fond of the bladder perforated by a sharp splinter of wood upon which she suddenly fell. The laceration, which was triangular, and was more than six lines of diameter, produced scarcely any flow of blood. We passed a catheter into the bladder, and left it there to give issue to the urine and prevent it from impeding the cicatrization of the wound. The inflammatory symptoms we afterwards combated by means of prolonged baths, by bleeding, by the application of leeches to the hypogastrium, rigorous diet, etc. Five weeks after the accident, the cure was complete. The *Lancette Française* published, not long since, the case of a young girl, in the environs of Bordeaux, who, while playing on a hay-rick, had the recto-vaginal septum perforated by the point of a pitchfork. Although the injury resulting from this accident was very great, there was scarcely any hæmor-

* De Part. Generat. Inservientibus, lib. ii. cap. xiv. p. 164.
† Anat. Corporis Humani, lib. x. cap. 36.

any hæmorrhage, and the patient, under a rational treatment, soon recovered. Finally, we are about to give another example still more remarkable, which is very analogous to the one just mentioned, and is to be found in the fifty-sixth volume of the *Dictionnaire des Sciences Médicales*, p. 461. A girl, twenty years old, sliding down a haycock, fell upon a sharp stick of wood, that was armed with a lateral hook, the handle placed against the ground. The stick was an inch in diameter, the point obtuse, the hook sharp and crooked: there was an interval of five inches and a half between its point and that of the stick, and a distance of eighteen lines between the point and the stick itself, without counting the thickness of the latter. All this part of the instrument penetrated within the vulva; and when the first attempts at extraction were made, the hook, which had penetrated the abdomen through the posterior wall of the vagina, became fixed between that canal and the rectum. After frequent attempts made by another physician, Dr. Rey succeeded in extracting the foreign body without incision and without much violence. He commenced by disengaging the point of the hook by turning it towards the pubis, while, at the same time, he strongly depressed the wound in the vagina. The extraction was then instantly accomplished. A consecutive peritonitis was quelled, and the cicatrization was completed in seven weeks.

Though such lacerations and accidents as the above are not always mortal, nor even followed by hæmorrhage, it sometimes happens that solutions of continuity of the vagina, of little depth, and even simple excoriations or slight cuts of the lining membrane of this canal, have produced dangerous losses of blood, and even death itself. Accidents of this kind occur particularly when the vaginal mucous membrane has become the seat of a varicose disorder, which renders it less resisting, and augments, at the same time, the danger of the wounds. These varices of the vagina, which often burst during labour, sometimes give rise to effusions of blood, which, involving the pelvic cellular tissue, and especially the lips of the vulva, occasion the most frightful accidents, and those dangerous and often fatal *thrombuses* of the vulva to which Professor Boer,* Madame Lachapelle,† and especially M. Deneux,‡ have directed the attention of the profession.

The indication presented by thrombus of the vulva, is the following: to give issue to the accumulated blood by means of an incision made from without; and to procure the approximation of the edges of the cavity by plugging up the vagina, in such a way, however, as to leave a free passage to the uterine fluids, by means of a large canula.

Lacerations of the vagina, effected during labour, may take place either in the superior portion of the canal, that is to say, towards the point where it unites with the neck of the uterus, or in its middle and inferior portion. This kind of rupture is always the effect of extreme distension, produced by the head of the child, or

* Mat. Med. Obs., lib. vii. p. 24.

† Pratiq. des Accouch. ou Mém. et observ. choisies, etc., t. iii. pp. 130. 197. 199.

‡ Mémoire sur les Tumeurs Sanguines de la Vulve et du Vagin., 1830.

the result of the direct action of the hand or of obstetrical instruments. Laceration of the upper extremity of the vagina, which is the most frequent of all, has often been mistaken for rupture of the uterus itself. It is true, that laceration of one of these organs sometimes extends to the other, whichever be the one in which it commenced. When the rupture of the vagina has occurred above, the canal seems simply to have broken its connection with the cervix uteri; for division of the superior portion assumes almost always a transverse direction, which is not the case when the laceration takes place upon any other point.

A rupture of the middle portion of the vagina often extends to the perineum, and is merely a continuation of the laceration of this inferior paries of the pelvis. It is useless for us to dilate at this point upon the symptoms of these lacerations, as they bear the strongest analogy to those of the uterus, of which we shall soon treat; it is sufficient to say, that the prognosis is usually more favourable than for laceration of the womb, and that the patients have soon been restored, even in cases where the intestines had passed into the vagina, and in others, when the child had escaped into the cavity of the abdomen. The extraction of the fœtus and placenta, which is the most important indication, is always effected without much difficulty through the accidental perforation of the vagina, the edges of which do not contract like those of the uterus; so that an attentive and dexterous practitioner may often accomplish a perfect delivery without employing violence, and thus remove the principal obstacles to cicatrization. We should not omit to state that what especially distinguishes rupture of the vagina from that of the uterus, is that vaginal lacerations preserve the same extent and breadth after the termination of the labour, while uterine lacerations lose in diameter in proportion as the gestative organs become contracted. In some very rare cases a double rupture of the vagina takes place, that is to say, the laceration extends into the walls both of the bladder and of the rectum. Professor Chaussier exhibited to the Society of Medicine of Paris, a specimen, which presented a double rupture occupying both the anterior and posterior walls of the vagina. This specimen was taken from a female who had been the victim of ill-directed manipulations during her labour.

If laceration of the vagina be less dangerous than that of the uterus, it is because of the greater facility of extracting the child, and because of the small quantity of blood which escapes after the accident.*

* Veslingius, however, remarks that he has twice seen rupture of the vagina followed by mortal hæmorrhage. *Bis enim notavi, cum uteri vagina secundum latus dextrum esset disrupta, quamvis fœtus extinctus integré cum secundinis educeretur, subsequente ex laceratis hypogastricis vasis enormi sanguinis profluvio, matrem paulo post pariter fato cecisse.* It is probable that in these two cases, and in most others of the same kind, the vaginal mucous membrane was the seat of a varicose condition, which had facilitated the rupture and determined the hæmorrhage.

## OF CONTUSIONS AND WOUNDS OF THE UTERUS.

When empty, the uterus being movable and concealed in the pelvic cavity, is very rarely injured by external violence or wounding bodies.

While operations performed upon the neck of this organ, and lacerations produced by the ignorance of obstetricians, and by the head of the fœtus, prove that wounds of this part are not usually dangerous, it is not so in regard to those seated in the body of the womb. Nevertheless, wounds of the body of this viscus are not always necessarily mortal; for instances of recovery are on record, not only after the Cæsarian operation, but even after the rupture of the organ, or after wounds which seemed really to leave no hope. Reichard,* in his excellent dissertation, reports the case of a woman pregnant and at term, who received several wounds from a gun loaded with small balls, one of which struck her in the left side of the hypogastrium. This wound, in particular, gave rise to an abundant hæmorrhage, which was soon followed by syncope, but labour having come on, and delivery taken place spontaneously, it was discovered that the child had been struck under the right clavicle, and that there was a wound in which was found one of the balls and a portion of the mother's clothing. Notwithstanding this, both of them recovered, but the wound of the mother remaining fistulous, was, for a long time, the seat of a purulent discharge, and what is more extraordinary, gave issue to the menstrual fluid; this wound, which did not close until three years after, would have done so much sooner had it not been dilated by a canula, which it was thought proper constantly to retain in it. The same author cites other examples of wounds of the uterus, from Langius and Hoffman, which were followed by very rapid recovery. In one of the cases the wound was made by a knife, which had opened the cranium of the child; in another, it was produced by a blow from a pointed stick, which had injured the thorax of the infant; finally, in a third case, which we regard as impossible or as incorrectly reported, there is mention of a woman whose uterine and abdominal parietes were so extensively lacerated by a bull's horn, that the fœtus enclosed in its membranes escaped through the wound and fell upon the ground. The child having been replaced in the womb, and the parietes of the abdomen closed by means of a suture, the women recovered perfectly, and gave birth, at the usual period, to a healthy girl. M. Deneux,† and Dessault,‡ report from Sue, Schmucker, and other authors, authentic facts nearly similar and followed by entire recovery, but in these cases, the child had escaped, or had been instantly extracted through the open wound of the abdomen and uterus. Roussel§ likewise cites the instance of a female who recovered perfectly of a wound produced by a musket ball, which, traversing the abdomen and

* Dissert. exhib. uterum gravidé una cum fœtu vulneratum.
† Essai sur la Rupt. de la Matrice, etc., p. 24.
‡ Journal de Chirurgie, t. ii.
§ Traité nouv. de l'Hystéromotokie ou enfant, César., p. 120.

parietes of the womb, had destroyed the child. In the History of the Academy of Sciences, (for the year 1709, p. 22,) mention is made of a washerwoman who, at the sixth month of gestation, was wounded in the uterus by a pointed stake of a palisade. After the occurrence of the accident, a good deal of blood and then pus escaped by the vagina; several abscesses formed afterwards: finally, after opening a considerable tumour, whence escaped the remains of the fœtus, perfect recovery took place shortly afterwards. Do we not know, moreover, that the operation of tapping was performed successfully in a woman aged fifty-three years, whose uterus was distended by an enormous quantity of serous fluid,* and that, in another case, the womb of a pregnant and dropsical female was accidentally pierced by a trocar? Doctor Simmonst states that the accident was recognized by a discharge of blood and the acute pain which followed the puncture, and adds that, notwithstanding this wound of the uterus, the gestation went on regularly to term.

Although the facts that we have just mentioned seem to show that the prognosis of wounds of the uterus is not so grave as one might at first suppose, there is a much greater number of cases on record where death has been the immediate consequence of wounds, even slight ones, of the parietes of this organ. In order not to dilate too much on this subject, we shall content ourselves by quoting some of these examples. Brendelius‡ records the case of a young girl, who, wishing to procure abortion, had several times plunged a sharp instrument through the walls of the neck of the uterus, which perforated the membranes and destroyed the child. This criminal act was followed by a considerable hæmorrhage, then by delirium, convulsions and death. Devaux§ states, that he was called, on the 8th March, 1695, to Jane Berthot, pregnant at eight months, who had just been wounded by a sword in the hypogastrium, at the distance of three finger-breadths from the umbilicus; this woman was dead before any dressing could be applied: the autopsy showed that the sword, after having passed through the uterus near its fundus, had taken effect in the thorax of the child, and occasioned a large effusion of blood, which explained the sudden death of the mother and child. Planchon‖ also speaks of a woman pregnant at seven months, whose abdominal parietes were pierced by a large nail three inches from the umbilicus; this wound, which at first occasioned little pain, was followed by an abundant discharge of blood, mixed with water; the abdomen soon collapsed and the uterus contracted; on the following day convulsions came on; there was frequent singultus, bilious vomiting, and death, which occurred sixty hours after the accident. Upon the examination of the body, it was found that the fœtus had been slightly wounded in the right shoulder, and that the

* Wirer Annales de Lit. Méd. etrangère, p. 190.
† Idem. tom. ii. p. 460.
‡ Ephemerides Natur. cur observat. 147, centur. iii. et iv.
§ L'Art de faire des Rapports en Chirurg., p. 176 et 177.
‖ Traité de l'Opérat. Cæsar. (loc. cit.)

puncture in the uterus was very small, and situated two inches lower down than that in the abdominal parietes.

Wounds of the uterus, during pregnancy, are therefore in general very dangerous, not only because of the augmented sensibility and great dilatation of the vessels of that organ, but also because they most commonly bring on abortion, give rise to hæmorrhage, and especially to sanguine extravasations, which it is as difficult to guard against as to arrest.

Wounds of the gestative organ are detected by the situation of the external wound, by the direction of the wounding body, by the pain felt in the hypogastric region, in the groins, loins, thighs; by the uterine hæmorrhage, the distension of the abdomen produced by the effusion of blood, and the other symptoms common in wounds of the abdominal viscera. In cases of this kind, recourse should be had, without delay, to the most powerful antiphlogistics, such as repeated general bleedings, the application of leeches, of emollient fomentations, the use of demulcent, narcotic and camphorated enemata, of small bulk, so as to be retained; finally, mucilaginous, astringent and antispasmodic drinks, and a number of other remedies, which should be modified according to the case and the symptoms.

Traumatic uterine hæmorrhage presents but little danger in the non-gravid state; it is arrested without much difficulty, by repose and the use of cold and astringent drinks. Should the flow of blood be obstinate, and especially if the patient be already prostrated, we should have recourse to a much more active medication; for example, we might prescribe a cold solution of sulphate of alumina, to be used as a drink, as an injection into the vagina, and as a topical application to the exterior orifice of the wound, by means of linen wet with it. We might, with advantage, substitute for the internal use of the alum a solution of extract of rhatany, (two drachms to the pint of water,) sweetened with syrup of comfrey root.* This astringent substance seems to exert a special influence upon the uterus, and to be more efficacious than any other remedy of the same kind in arresting hæmorrhage from the organ. It would be equally well to prescribe the extract of rhatany in enemata, and with addition of two grains of camphor, or assafœtida, and ten drops of tincture of castor, if the hæmorrhage were accompanied by hiccough and other nervous symptoms. Traumatic uterine hæmorrhages are generally difficult to arrest during pregnancy; unfortunately, all the remedies we can propose often fail, and the bleeding ceases most frequently only after delivery, of which, therefore, we must try to hasten the termination.

## CONTUSIONS AND WOUNDS OF THE MAMMÆ.

Though the mammæ are very much exposed by their situation to

* The following mixture, taken in tablespoonful doses every quarter of an hour, has been followed by good results, whenever we have used it, in cases of uterine hæmorrhage, which other means had failed to arrest.

℞.—Infusion of orange leaves, ℥viij; extract of rhatany, ℥ij; syrup of comfrey root, ℥i.; syrup of poppy-heads, ℥i.; sulphuric ether, ♏x.

the contact of external bodies, and consequently to various contusions, it is uncommon for them to be wounded by pricking or cutting instruments, unless in some surgical operation.

Contusions of the breasts, however slight, are always painful; yet they are rarely followed by ecchymosis; and though they occasion only mild symptoms at first, often produce, after several days, swellings, induration and engorgements, which deserve the more to fix the attention of physicians, because they are the most frequent cause of cancer of the mammæ.

When contusions or wounds of the mammæ have occurred during the menstrual flow, it often happens that that discharge is modified, that is to say, suppressed, diminished, or increased. During gestation and lactation, these contusions of the mammæ produce more serious consequences. In the former case, the breasts being more highly endowed with sensibility, become the seat of more considerable inflammation and engorgement; in the latter, there is conjoined to these symptoms, diminution of the secretion of milk, and often complete suppression of the secretion.

The consequences of blows received upon the mammæ are more or less grave, in proportion as the pain they produce is superficial or deep seated. When the pain is superficial, the subcutaneous cellular tissue is generally alone affected; in the contrary case, the mammary gland is the seat of the pain, and the prognosis becomes still more unfavourable if the patient have arrived at her critical period.

Contusions of the breasts then merit the greater attention, because of the unfortunate consequences which sometimes result from them: we should therefore resort to the employment of antiphlogistics, such as general bleedings, the application of leeches around the part contused, discutients, if there be ecchymosis, cataplasms of flax-seed meal sprinkled with laudanum; and, indeed, we should persevere with all these remedies until the pain and all traces of inflammation have disappeared.

Wounds of the breasts, produced by puncturing instruments, such as a nail, a needle, etc., require, in the same way, the employment of general and local bleedings, and of discutient, emollient and narcotic applications, according to the nature of the wound and the symptoms. During pregnancy we should prefer bleeding from the arm to the local use of leeches, unless important circumstances contra-indicate it. If the woman be suckling we ought to dispense with the use of sanguine evacuations, excepting in cases where the breasts are much engorged or when there is suppression of the milk.

When the contusion or wound of the mammæ has produced a distinct diminution or suppression of the menstruæ, we should endeavour to recall this discharge, or substitute for it an application of leeches to the vulva, or to the superior and inferior portion of the thighs.

## OF RUPTURE OF THE UTERUS.

Rupture of the uterus is a solution of continuity of the parietes

of this organ occurring spontaneously during pregnancy, and most generally during labour, or caused by wounds or violence exerted upon the hypogastric region. In some cases the external agents open the abdominal parietes, and act directly upon the gestative organ. Rupture of the womb has several times been seen to be the result of a wound of this viscus by the horn of a furious bull;* the same accident has followed a wound produced by the fragment of a glass chamber-pot, upon which the woman was seated; it has followed a gun-shot wound, a blow with a sabre or a bayonet, and has been caused by the iron ferule on the end of a gig shaft,† and finally by other wounding bodies which it is useless to indicate. Accidental rupture of the uterus takes place also in cases where the parietes of the abdomen have remained uninjured, in consequence of strong pressure, distending the uterine fibres to a greater degree than comports with the ductility and extensibility of which they are susceptible.

The records of science contain the case of a female whose uterus was ruptured in consequence of violent compression of the abdomen, between a carriage and a wall;‡ in another person, the same accident took place from her being kicked by an unruly horse, and thrown on a sharp stone which struck against the umbilical region :§ finally, in a third, the rupture was the unfortunate result of a severe fall upon the abdomen. In the greater part of the cases which we have just reported, the child passed wholly or partially into the cavity of the peritoneum; but the rupture did not occur immediately after the accidents which were the cause of it. The too great extension of the fibres of the uterus, and their weakness, determined by contusions or wounds, although not involving, in all cases, the whole thickness of the parietes of the organ, probably facilitated the subsequent complete laceration, either by the power of a uterine contraction, or some other effort, or by the giving way of the eschar of the contused parts, which had mortified. There is yet another rather frequent cause of rupture of the uterus, the forcible introduction of the hand into the cavity of the organ, and, still more, of forceps and certain instruments, which act as puncturing or cutting instruments, producing real wounds, or causing pressure or tractions which lacerate the fibres of the organ. We ought, however, to confess that, in a great number of cases, it is very difficult, and even impossible, to ascertain whether the rupture has taken place spontaneously, or whether it has been produced by the imprudent manipulations of the accoucheur, or by some extrinsic influence. The following case, reported by Professor Désormeaux, on the authority of Dr. Moulin, shows the obscurity which prevails on this point:— In a woman who was suffering the most violent parturient pains, the uterus presented a very marked anterior obliquity. The midwife, who had vainly endeavoured to restore the organ to its natural

* Sue, Essai histor. sur l'art des accouch., t. i. p. 209. Deneux, from Lechaptois: Essai sur les Rupt. de la Matr., p. 35.

† Planchon. Traité de l'Opérat. César., p. 77.

‡ Ancien. Journal de Médecine, t. liv. p. 534 et 672.

§ Mauritaneus Cordæus. Hist. de l'Acad. des Sciences, 1709.

direction, wishing to renew her attempts, took advantage of a powerful uterine contraction, to introduce a finger into the vagina; but scarcely had this introduction commenced, when the woman cried out that they were tearing her insides. Symptoms ensued, which made it necessary to transfer the patient to the Hôtel-Dieu, where a rupture of the inferior portion of the uterus was discovered, which was soon followed by death.

The *predisposing causes* of the affection which now occupies our attention are, excessive irritability of the uterus; weakness or too great rigidity of its tissue; a scirrhous condition of the cervix; occlusion of its orifice; contracted pelvis; osseous or fibrous tumours in that cavity; obliteration of the vagina, and incomplete atresia of the vulva; scirrhous tumours of the ovary; faulty position of the fœtus, and all the causes that act as obstacles to delivery and render the expulsive efforts vain: finally, there have been reckoned amongst the predisposing causes of rupture of the uterus, undue distension and thinning of that portion of the viscus which corresponds to the insertion of the Fallopian tubes, unequal thickness of the parietes of the same organ, and, lastly, weakness of its tissue, whether resulting from an ancient cicatrix, from a wound, from an antecedent suppuration, from the presence of a fibrous tumour,* or from any cause whatever. According to Denman, pressure and attrition between the child's head and projecting points of bone in badly-formed pelves, may wear away, mechanically, the walls of the uterus. When any of the predisposing causes we have just indicated exist, rupture may be produced by the sudden contractions and more or less violent efforts which result from coughing, sneezing, vomiting, or from lifting a heavy burden. The same accident may occur from violent anger, or sudden fright. M. Duparque has published several cases, which leave no doubt on this point.

The determining causes of spontaneous rupture of the uterus are very difficult to ascertain. Some authors, as Delamotte, Levret, Deventer, Crants, and M. Egge,† regard the violent and convulsive movements of the fœtus as their only cause. According to Rœderer, this cause cannot be admitted; and in this we agree with him, because, before the rupture, the child is too strongly compressed by the uterine contractions to be enabled to excite movements capable of rupturing the parietes of the womb; besides, the rupture has often taken place even where the child had been dead for seve-

* Madame Lachapelle, Madame Boivin, obs. iii.; the Lancette Française, t. viii. n. 126, p. 389, quotes from an English journal, (the Edinburgh Med. & Surg. for July, 1833,) a case of rupture of the uterus, observed by Dr. John Dunn, which took place during labour, on the 15th April, 1829. The laceration had occurred along the margin of a large fibrous mass. The fœtus was extracted immediately through the natural passages; and the patient, aged thirty-seven years, recovered so entirely, after the spontaneous opening of an internal abscess, which discharged a large amount of purulent matter by the anus, that, fifteen months after her cure, she was delivered, without accident, of a dead child, and, on the 27th October, she was again safely brought to bed of another child, which was still living on the 9th of February, 1835; that is to say, it was aged nearly two years when this interesting case was made public.

† Med. & Physic. Journal, November, 1828.

ral days; and, as Planchon remarks, no part of the fœtus had become engaged in the fissure, which would certainly have been the case, had the solution of continuity been produced by the movements of the infant. It seems more natural to us to suppose, that spontaneous rupture is generallycaused by a violent contraction of the uterus, which is, at the same time, under the influence of one of the predisposing causes above cited. Effectively, it has almost always been observed, that it is during an energetic and convulsive contraction of the uterus and of the inferior extremities, that uterine lacerations have taken place.

Baudelocque regards, as a very frequent and very powerful cause of this accident, the sudden and forced movements of the trunk during the uterine contractions. In our opinion, this cause, if it does not produce, may at least promote spontaneous rupture; and we are the more inclined to admit it, because it acts at the same time with the exciting causes which we have mentioned.

Although ruptures of the uterus have generally taken place after the membranes have given way, and particularly when the uterine contractions had reached their greatest degree of violence, it has sometimes happened that they have occurred at the beginning of labour, and even during gestation. M. Collineau* saw a case of rupture of the womb, which occurred in the second month of pregnancy, in consequence of vomiting. Dr. Puzin† has cited an example, which was brought on in the third month, by an attempt to carry a heavy burden. M. Moulin‡ has published another, which took place at the same period. Finally, M. Campbell§ and M. Duparque‖ speak of rupture of the uterus at the fourth month; M. Thomas Hott,¶ at the sixth, and M. Bochard** at the seventh.

In order to explain the above cases, we are obliged to admit that the ruptures were determined by the organic causes mentioned above, or else we must suppose them to have occurred during *semi-extra-uterine* pregnancies—that is to say, those which are seated in an abnormal cavity formed in the substance of the walls of the uterus.

Authors have mentioned, as precursory signs of rupture, tension of the abdomen, elevation of some part of the uterus into a point, violent movements of the child, a fixed and acute pain in the same spot; again, strong pains without any effect, and finally, some other phenomena which are far from being always present, or which exist without the occurrence of rupture: nevertheless, the accident is to be apprehended when there are great obstacles to delivery, and especially where the uterine contractions are violent, prolonged, and accompanied by very severe pains.

The symptoms showing that rupture has taken place, are the following: the female, after an energetic and convulsive contraction,

* Journal Général. de Méd., 1808. † Dissertation Inaugurale, 1809.
‡ Archives Générales de Médecine, t. ix. p. 132.
§ The Lancet, vol. i. p. 31.
‖ Hist. Compl. des Rupt. et de la Chirurg. de l'Uterus, p. 42.
¶ London Medical Repository, May, 1817.
** Journal de Méd., t. v. p. 42.

suddenly feels a much more intense pain, accompanied by an inward sensation of laceration, and by a peculiar noise, or rather a sort of tearing sound, that has sometimes been heard by the attendants. The place where the rupture has occurred, then becomes the seat of an excessively acute pain, like that from a violent cramp. The patient utters a piercing cry, her face becomes pale, her pulse grows feeble, she faints or becomes calmer, general coldness ensues, and sometimes a gentle warmth extends over the whole of the abdomen, which suddenly changes its form; the movements of the fœtus disappear little by little, but the labour, which up to this moment had been too active, is instantly suspended; finally, in the greater number of cases, death follows a more or less considerable effusion of blood into the abdomen and from the vulva.

Although any portion of the uterine parietes may be the seat of laceration, there are, nevertheless, certain parts which are more liable to it than others; for example, the cervix, the sides and the fundus. If the anterior and posterior walls are less subject to it, it is probably because they have a point of support, one upon the anterior paries of the abdomen, and the other upon the vertebral column.

The fœtus and its appendages do not always escape from the cavity of the uterus, after the organ has been ruptured spontaneously, or from a wound, though it be true that the contrary generally happens; yet in some cases the body of the child, or only a part of it, passes through the rent, while the rest remains in the uterus, even though the placenta may have escaped.* When death does not promptly follow, the laceration of the body or fundus of the gestative organ soon diminishes in size, from the contractions of the muscular fibres, and if a portion of the fœtus or placenta, or even a loop of intestine, should have become engaged in it, they are constricted, and strangulated as it were.† Lacerations of the neck, on the contrary, sometimes remain open for a long time, and allow of the escape of a considerable portion of intestines and epiploon; finally, we deem it

* Doctor Goldson, in a pamphlet published in London in 1787, has sought to show that the cases of rupture of the uterus, reported by Van Derwiel, Douglass, Bonnet, Pouteau, Manning and some others, were really only lacerations of the vagina which had occurred near its insertion into the cervix. Dr. Goldson in this way explains the facility which these observers met with in the extraction of the fœtus, which had completely passed into the abdominal cavity. It is true that the child rarely escapes quite through a rupture of the womb, unless there be at the same time rupture of the vagina, because even when the laceration is large enough, it immediately diminishes, in consequence of the reduction produced by the contractions of the organ, and permits only of the escape of a portion of the fœtus; for example, the head alone, (Radford), or accompanied by an arm, (Behling), or, finally, the two superior extremities and the trunk, the feet remaining in the cavity of the uterus, as was observed by Philippe Peu (Prat. des Accouch., p. 79). Sometimes the placenta has been driven into the abdomen, while the child has escaped only in part; at other times it is expelled alone through the natural passages, while the fœtus is in the abdominal cavity, where it is found by tracing the cord; finally, the membranes may be retained in the womb, whatever be the position and place occupied by the child.

† Rungius, Institut. Chirurg. pars secunda, p. 728. Tousaint Beauregard, Ancien Journ. de Méd., t. lxxix, p. 68. Deneux, from Percy, (loc. cit., p. 53.).

proper to add that the amniotic fluid alone sometimes escapes into the peritoneal cavity, but this effusion is commonly of little consequence, and never gives rise to results so fatal as those produced by the effusion of blood.

We repeat again, that rupture of the womb is a very dangerous, and almost always fatal accident; if the woman does not perish immediately from external or internal hæmorrhage, she soon succumbs under the influence of inflammation, caused by sanguine effusion and the presence of the fœtus and placenta in the cavity of the peritoneum. Nevertheless, death does not always follow rupture of the uterus, in which case the parietes of the cyst become anew the seat of acute inflammation, and of purulent secretion, which opens a passage either upon the exterior surface of the abdomen, into the cavity of the vagina or vulva, or into the rectum, the colon and other intestines, as was observed by Doctor John Dunn,* or into the bladder, as in a case seen by M. Morlane, and another, still more recent, communicated, by M. Lecieux, to the *Société Médicale d'émulation* of Paris,† or, finally, into the stomach even, as Marcellus Donatus,‡ George Salmuti,§ and Bernard Montana,‖ seem to have seen examples of, and certain of which have also been reported by Thomas Bartholin,¶ Professor of Anatomy at Copenhagen. According to the authors we have just quoted, the remains of the fœtus, partly in a state of putrescence, were swept off by the purulent fluids, and expelled from the body; in some cases through the anus, through the vulva, or by a spontaneous opening in the abdominal parietes, and in other cases, by means of vomiting; finally, in the case by Doctor Lecieux, the bones of the fœtus passed into the bladder, and there became the nuclei of several urinary calculi. While some women have perished, because nature has been unable, in their cases, to produce such salutary movements, others have died, because, after a primary evacuation of the débris of the fœtus, one of the bones of the latter has presented across, or being too voluminous, has blocked up the passage by which the complete expulsion might have been effected.

Of all the means of diagnosis, the introduction of the hand into the vagina and uterine cavity, is that which is in all cases the most faithful, and leaves the least obscurity upon the different ruptures of the womb. Indeed, if able to distinguish the fœtus with some certainty by means of abdominal palpation, and near it a hard and rounded tumour formed by the more or less contracted womb, we shall discover, by carrying the hand into the vagina and through the orifice of the uterus, not only the rupture itself and the place where it exists, but also the circumstances which accompany it. If the laceration has taken place in the neck, the chances are less unfavourable, because we can generally extract the fœtus through the wound and

* The Edinburgh Med. and Surg. Journal, July, 1833.
† Bulletin de la Société Med. d'émul., 1822.
‡ De Historiâ medicâ mirabili, 1586.
§ Observationum medicarum centur. posthum., 1658.
‖ Libro del anat. del hombre, 1550.
¶ De insolitis partûs viis, 1664.

vagina, without being obliged to perform the operation of gastrotomy. In all cases, the prognosis is very grave, but, as we have already said, the records of science possess a considerable number of facts, which prove that women have recovered from rupture of the body of the womb, especially when succoured in time by skilful hands.

The most pressing indication to be fulfilled after a rupture of the womb, is, first, to effect as soon as possible the extraction of the fœtus and placenta, the presence of which constitutes the most unfavourable complication, and then to combat the secondary symptoms according to circumstances. If the child have not passed entirely into the abdominal cavity, we should always endeavour to terminate the labour by the natural passages; but in the contrary case, recourse must be had as soon as possible to gastrotomy, because this extreme means offers some chance of safety to the mother, and especially to the child, which would indubitably perish unless we should act with great promptitude.

The operation of gastrotomy is performed in the following manner: having placed the female on a firm bed, with a cushion under the hips, in order to increase the prominence of the abdomen, the operator, placed upon the left of the patient, makes in the abdominal parietes and towards the region occupied by the child, a longitudinal or oblique incision, which he should always be careful to limit to an extent of from five to six inches. This first abdominal incision, the place and direction of which must be determined by the position of the fœtus, should include only the skin and subcutaneous cellular tissue; then, carrying the bistoury carefully into the inferior angle of the wound, an opening sufficient to permit the introduction of the fore-finger of the left hand should be made; next, substituting for the first instrument a probe-pointed bistoury, the surgeon carries this last into the abbomen by gliding it along the finger retained in the wound, and cuts the muscles and aponeuroses in the same direction, and to the same extent, as the first incision that was made externally. If large vessels should be opened during the operation, they must be tied, or, still better, twisted; in the contrary case, a hand should be introduced into the abdomen without delay, to extract the fœtus and placenta; yet, if the latter have remained in the cavity of the uterus, it would be better, perhaps, after having tied the cord, to trust its expulsion to the efforts of nature.

The dressing of the wound is very simple; it consists in the application of adhesive strips, and some pledgets of charpie, covered with compresses, and maintained in sitû by means of a moderately tight bandage around the body. In order to facilitate as much as possible the approximation of the edges of the wound, the patient must be placed in a suitable position; she should be advised to have the child applied to the breast, in order to diminish the flow of the lochia, and especially to produce a revulsive mammary irritation, which could not but be favourable to the cure. She should be restricted to a close diet, and the inflammatory and nervous symptoms

must be combated by the most powerful antiphlogistics and antispasmodics, which ought to be varied according to circumstances. In all cases, it could not but be advantageous to prescribe emollient and anodyne vaginal injections, to which might be added the use of fomentations and enemata of the same kind.

When we have the good fortune to see the wound cicatrize, we should advise the female always to wear a well-made belly-band, in order to sustain the abdominal viscera, and in this way prevent their displacement. These means have sometimes succeeded; M. Nauche* states that after an operation for gastrotomy, performed by Thibaud Dubois, some hours subsequent to a rupture of the womb, the woman, whose child was dead, suffered no other symptoms than those which result from an ordinary labour. Sabatier† also states that Lambron, a surgeon of Orleans, succeeded in two similar cases, in the same female. Gastrotomy was performed on the first occasion twenty-four hours after the rupture, from which it necessarily resulted that the child was extracted dead; an abscess followed in the neighbourhood of the wound; yet notwithstanding this complication, the patient recovered, and became pregnant again the following year. The uterus being ruptured anew, Lambron performed gastrotomy a second time a few moments after the accident; the child evinced some signs of life, but soon died; the mother being once more perfectly restored, became pregnant again, and was delivered, without accident, of a child, which survived. This operation, which does not always terminate so happily, and yet to which we should not hesitate to recur, since it offers almost the only chance for safety in a great number of cases, has likewise been successfully performed by several other practitioners, amongst whom we deem it sufficient to cite MM. Fritzel,‡ Powel,§ Sommer,‖ Mackenzie¶ and Neville.**

We shall terminate what we have to say upon this subject by adding, that as rupture of the uterus is an accident of the most serious character, it is exceedingly important to attend to all the means proper for preventing it, that is to say, to remove, as soon as possible, all obstacles that might render the uterine contractions unavailing. Thus, in some cases we shall succeed in preventing the laceration by performing the operation of turning, or by restoring the gestative organ to its normal direction; in others, we shall attain the same result by incising the cervix, when it is the seat of a callosity, or by resorting to symphyseotomy when contraction of the pelvis opposes the escape of the child; and finally, by employing every means proper for facilitating delivery, such as baths, emollient injections and fumigations, and especially general bleedings at the arm.

Unfortunately, lacerations of the uterus cannot, generally, be either foreseen or prevented; either because they take place suddenly and

* Maladies de Femmes, tom. i. p. 267.
† Médecine Opératoire, tom. i. p. 340.
‡ Trans. of Iceland, t. i.
§ Trans. of London, t. xii.
‖ Med. Reposit., new ser., t. iv.
¶ London Med. Gazette, Oct. 1830.
** Med. Soc. of London, Feb. 1824.

without precursory symptoms, or else because women are attended by persons incapable of judging of their condition and acting accordingly.

The Fallopian tubes and ovaries, also, like the vagina and uterus, are liable to laceration when they become the seat of extra-uterine conception. Baillie* reports a case of rupture of the Fallopian tube, which occurred from the progressive development of a fœtus contained within it, and gave rise to fatal hæmorrhage; moreover, these kinds of laceration, which are very rare, require the same treatment as that which has been indicated for ruptures of the vagina and of the uterus. See a case in Philad. Prac. Mid., p. 106.

## OF VAGINAL FISTULAS.

The vagina may communicate by means of one or more accidental openings, with the bladder or urethra by its anterior paries, and with the rectum by its posterior paries, or at the same time in front and behind, with each of these cavities. These kinds of perforations constitute what are called *vaginal fistulas*, which are distinguished into *vesico-vaginal* and *recto-vaginal* fistulas; and into double or multiple *vaginal* fistulas, according to the situation and number of the perforations in the vulvo-uterine canal.

## OF VESICO-VAGINAL AND RECTO-VAGINAL FISTULAS.

Vesico-vaginal fistula, that is to say, the anormal aperture which allows the urine to enter the vagina and to flow off constantly through it, against the will of the person affected, is a physical lesion which, though rare, is met with often enough to deserve all the attention of men of art. This disease, or rather this disgusting infirmity, is one of the most unfortunate and painful accidents to which women are liable. In fact, the inconveniences which result from it reduce them sometimes to such despair, that they always accept without hesitation the most painful operations, and all other means proposed to them. Though never mortal in itself, the affection is, nevertheless, a very serious one, not only from its reducing the patient to the most deplorable condition, but particularly because of the great difficulty almost always met with in obtaining a radical cure.

The *causes* which give rise to vagino-vesical fistula are, most generally, the prolonged detention of the fœtal head in the excavation of the pelvis during laborious labours, and compression of the superior portion of the vagina against the symphysis pubis, from which result gangrenous eschars, whose fall almost always produces vaginal perforations. To the causes just mentioned, must be added violent manipulations, and the employment of the lever or forceps, directed by awkward hands, the prolonged retention of a calculus or other foreign body in the bladder, of which Fabricius

* Anatomie Pathologique, chap. xxiii. sect. 5.

Hildanus cites an example ;* that of a pessary in the vagina,† vaginal cystotomy, and finally, vesico-vaginal fistulas have also been known to occur from venereal ulcerations, or from a cancerous ulcer situated upon the neck of the womb, and still more upon the vagino-vesical septum.

The *signs* of this affection, which may likewise be congenital,‡ present but few differences in the women attacked by it. When it follows a laborious labour, retention of urine is almost always present, which is relieved at first by the introduction of a catheter into the bladder, but is gradually converted into complete incontinence after the fall of sloughs of greater or less size, which usually takes place from the seventh to the twelfth day.

Vesico-vaginal fistula may occur in the canal of the urethra, and at the neck, or bas-fond of the bladder. Those of the first kind, to wit, the urethral, are the least unfavourable, because the urine does not flow except during the voluntary expulsion of this fluid, which escapes partly by the meatus urinarius, and partly by the accidental perforation. The anormal discharge of the vesical fluid, whose quantity varies according to the dimensions of the fistula, by bathing the wall of the vagina and the internal surface of the labia majora almost constantly, soon causes an active irritation in those parts, and develops in them either an habitual erysipelatous condition, or an eruption of large pimples, or else grayish ulcerations and smarting, and very painful pruritus, which it is more difficult to prevent than to cure.

When the perforation is situated at the neck of the bladder, all the symptoms we have just mentioned become still more serious, for the patients are unable to retain their urine, except in a few cases when seated or standing, because the womb in these positions gravitates, and closes the fistulous aperture, the lips of which it maintains in contact by approximating the superior edge to the inferior. In order for this result to be obtained, it is necessary, on the one hand, that the perforation shall be slight, and on the other, that the female shall avoid the expiratory efforts which occur in sneezing, laughing, spitting, coughing and blowing the nose, a thing difficult, if not, indeed, impossible. In reality, every time that the diaphragm forces the abdominal viscera downwards by a sudden contraction, the bladder, which is compressed at the same moment, likewise contracts, and a change in the direction of the fistula is produced, which then allows the urine to escape, in spite of the precautions taken by the woman.

When the perforation is seated at the bas-fond of the bladder, the flow of urine is continual, no matter what be the position that the patient assumes. In this case, the most unfortunate of all, their beds, their garments, the cavity of the vagina, and the internal surface of the labia majora, are constantly bathed with urine, and there

* Opera omnia, centur. i. observ. 68.

† Journ. complèm. des Sciences Méd., tom. xxxvii., and various cases that we cited while treating of pessaries, in the early part of this work.

‡ Dic. des Sciences Méd., t. lvi. p. 303.

is no precaution, no means of cleanliness which can guarantee them from being constantly wet, and especially from the urinous and disgusting odour which they exhale. There are some even who are compelled to pass their lives in chairs with holes, in which are placed vessels intended to receive the urine as it escapes from the vagina.

Notwithstanding the sad picture we have just traced of vesico-vaginal fistulas, they did not attract the attention of surgeons until the commencement of the present century, and we find no good history of them except in the most recent works. Nevertheless, these kinds of perforation have existed at all periods, and must have been more frequent formerly than at present, because prior to the discovery of the forceps, in the last century, difficult labours were terminated only by the efforts of nature alone, or by means of dangerous operations. It is clear that, in such cases, the prolonged pressure of the head against the vagino-vesical septum and symphysis pubis, must often have produced gangrene, which is the most common and almost the exclusive cause of the affection which now occupies our thoughts.

The *diagnosis* of vesico-vaginal fistula rarely presents any difficulty, and, in general, with the aid of the touch and the direct exploration by means of the *speculum vaginæ*, we may almost always discover not only their existence, but also their form, their situation and extent. There are, nevertheless, some circumstances which we think ought to be mentioned, as they may cause some obscurity in the diagnosis.

When incontinence of urine manifests itself only a few days after delivery, we might confound this involuntary discharge with that of the lochia, and attribute the diminished escape of cystic fluid to an inflammatory, or some other pathological condition of the renal glands. It is sufficient merely to mention this possible cause of error, in order to avoid falling into it. It is also well to know, that when the vesico-vaginal fistula, which occurs after a laborious delivery, is the result of a laceration or division, the incontinence of urine supervenes immediately after parturition ; on the contrary, where the perforation follows the formation of a slough, it is only after the falling of the latter, which takes place generally from the seventh to the twelfth day, that the incontinence of urine becomes manifest. We should, nevertheless, remark, that the involuntary expulsion of urine following a difficult labour, is not always the result of a communication established between the vagina and bladder, since it may depend also upon violent contusion of the neck of the bladder, without formation of a slough. Although, in this last case, the incontinence is usually of short duration, it may sometimes persist as though a fistula existed, and give rise to difficulties in the diagnosis, which are, however, readily removed by exploration of the parts. Finally, in order to terminate what we had to say upon the circumstances which may complicate the diagnosis of vesico-vaginal fistulæ, we shall add that the presence of a deep slough on the neck of the bladder does not commonly pro-

duce incontinence, until after having first determined complete retention of urine.

If, after a laborious labour, we should have some reason to believe in the existence of a fistula, it would become necessary to remove all uncertainty upon the point at once, because, in these cases, the least delay may give rise to the most deplorable consequences. In fact, if we wait until the edges of the perforation have become cicatrized separately, there remains no chance of cure except from a painful and often unsuccessful operation. When, on the contrary, the presence of the accident has been recognized in good time, we may hope for complete reunion by the efforts of nature alone, examples of which have been cited by Fabricius Hildanus,* Paletta,† Philippe Peu,‡ Ryan,§ Duparcque,‖ Blundell, Capuron, and other authors; or we may at least hope for some diminution of the extent of the fistula, the radical cure of which to be afterwards readily obtained by means of cauterization.

The moment we have any motive for fear, it is of the highest importance to assure ourselves as soon as possible whether a vaginal perforation exists, for immediately after delivery, the vagina and uterine ligaments are relaxed, the uterus heavy, and the edges of the wound bleeding or in a state of suppuration. As all these circumstances are very favourable to the approximation and agglutination of the lips of vesico-vaginal fistulas, the chances of cure would become more numerous and sure, in proportion as art should assist the efforts of nature, either by the use of a sound, introduced and maintained in the bladder; by means of favourable position, and compression of the abdomen; or by other means, to be varied according to circumstances, and the effects of which would be less powerful at a later period.

It remains for us to say, that vesico-vaginal fistula, caused by laborious labour, is almost always either transverse or oblique; those produced by other causes are more frequently longitudinal; abandoned to themselves, they commonly incline to last for indefinite periods of time, although, in a certain number of cases, they do contract spontaneously, and, as we have already stated, even close, by the inherent power of the organism, and under the influence of conditions which it is difficult to appreciate.

In order to acquire as exact an idea as possible of the form and dimensions of vaginal perforations, M. Lallemand, Professor at the Faculty of Montpellier, has devised an ingenious method of diagnosis, which consists in the introduction into the vagina of a piece of wax properly prepared, by means of a large *porte empreinte*¶ supported by the index and middle finger of the left hand. The wax,

* Centur. i., obser. 68 et centur. iii. obser. 69.
† Chirurgie, deuxième partie, p. 21.
‡ Prat. des Accouchements, p. 384.
§ Manual of Midwifery.
‖ Hist. Compl. des déchir. et des ruptures de l'ut., p. 328.
¶ An instrument for holding the wax intended to receive the impression.—*Trans.*

by remaining a few moments in the vagina, becomes softened; when it is perceived to have become sufficiently so to answer the end proposed, it is raised up and applied as closely as possible to the fistula, the impression of which it receives with the varied forms of its orifice and edges, as well as the appearance of all the surrounding parts, which is faithfully reproduced. In order to ascertain the exact depth of the seat of the lesion, all that is necessary is, while removing the wax, to apply the thumb upon the *porte empreinte*, on a line with the orifice of the vulva. This excellent means of diagnosis, to which it is always well to have recourse, furnishes the befiting complement of that preliminary knowledge which is indispensable to the surgeon, in order for him to operate with certainty.

The degree of curability or incurability of vesico-vaginal fistula, depends not only upon its situation and form, but also upon the nature of the causes which have produced it, upon its position in relation to the mouths of the ureters, and finally upon the absence or existence of a division of these canals at the points where they open into the bladder; the prognosis is likewise more unfavourable, if the urethra, the neck of the bladder, or the vesico-vaginal septum be partially or entirely destroyed, and also where there exists a protrusion of the vesical mucous membrane between the edges of the perforation.

Though it be contrary to the general opinion, we regard those fistulas, that are situated behind the vesical opening of the ureters, as being more favourable than those situated more in advance of these canals, because, in the former case, if we keep the patient in a more or less vertical position, and retain in the bladder a catheter which passes but little beyond the neck of the organ, all the urine may escape through the instrument without bathing the fistula; on the contrary, where the perforation is in front of the ureters, and especially when near the neck, a portion of the urine constantly flows over the perforated point, which constitutes one of the greatest obstacles to spontaneous cure, as well as to the agglutination of the edges when approximated by an operation.

Vesico-vaginal fistulas, which have been caused by the pressure of a pessary in the vagina, seem, in general, to be less grave than those arising from other causes; for from the cases which we related while speaking of the accidents produced by these instruments, it has been seen that they often close spontaneously, from the moment that the pessary is withdrawn. We may say, moreover, that in addition to the circumstances already mentioned, the chances of cure are in proportion to the diameter of the opening in the bladder; the greater the loss of substance, the more have we to fear that art, however ingenious it may be, can oppose but feeble arms to the disease.

The *curative treatment* of vesico and urethro-vaginal fistula, should always be preceded by the treatment of the internal causes which may have produced it, and by the removal of any complications that might aggravate it. Thus, were the vaginal perforation the result of a syphilitic ulceration, it becomes necessary first to

employ a general and local treatment proper for affections of this kind. Where the fistulous opening is caused by the presence of one or more calculi, or any other foreign body in the bladder, which may be ascertained by the catheter, or by the Touch through the vagino-vesical septum, we ought to perform lithotomy by the vagina, or destroy the urinary concretions by lithotrity, or by any other method that might seem more advantageous. If a contraction of the urethra exists, it should be treated by appropriate remedies, and if the fistula coincide with large and projecting callosities, with deep excoriations or urinary abscesses of the labia majora or nymphæ, it should be subjected to preliminary treatment, consisting especially in the use of emollient fomentations and lotions, whose action would be augmented by methodical dressings; in fine, we should never think of obtaining reunion and agglutination of the edges of the fistula, until after having restored it to a simple condition, and removed all the complications capable of preventing the success of the attempts that we may make.

Amongst the methods which have been employed or proposed for the treatment of fistulas, are, in following the chronological order, 1, the palliative method; 2, the use of the tampon; 3, cauterization; 4, the suture; 5, approximation of the edges of the perforation by means of particular instruments, such as sounds and hooked forceps, etc.

## OF THE PALLIATIVE METHOD.

The palliative ought, necessarily, to be the oldest of the methods that have been employed, as far as possible, to relieve vesico-vaginal fistula; for, until the close of the last century, the cure of this kind of perforation was regarded as beyond the resources of surgery, and especially as unsusceptible of cure by any operation.

This method should be made use of only when the fistula is known to be incurable; that is to say, when it depends upon the presence of an advanced state of cancer of the uterus or vagina, and even when it has been produced by any other cause, provided different attempts at a cure had proved unsuccessful.

The means to be employed in these unfortunate cases consist of such attentions to cleanliness as may protect the vaginal cavity, the labia majora, the perineum and the thighs, against the acrimony of the urine, and, in the use of different contrivances destined to receive the fluid, so that it may incommode the patient as little as possible.

The first indication is met by the frequent use of baths, of lotions, and emollient and narcotic injections; and we may partially relieve the inconvenience of the constant flow of urine, by means of an instrument which has been indicated only by J. L. Petit, under the name of urinal or *trou d'enfer;* but the real inventor of which is Féburier. This instrument, which may be found at all the bandage-makers, is a sort of bag or sac of India-rubber, which may be kept in front of the vulva, and introduced in part into the vagina, so as to receive the urine, without preventing the woman from walking and attending to her business. To answer the same end, M. Barnes,

of London, makes use of a gum-elastic bottle, which is placed partly in the vagina, and has a sponge upon its anterior face, in which an opening is fixed, that should be carefully directed towards the fistula in such a way that the urine may be absorbed. The urinal ought to be removed several times a day, in order to squeeze the urine out of it. In addition to several other contrivances of the same kind, proposed chiefly by manufacturers of bandages and gum-elastic instruments, we may resort to the employment of fine sponges, and plugs of linen introduced into the vagina, and renewed, more or less frequently, in the course of the day. Finally, in order to compel the urine to escape by the urethra, or by a sound or syphon placed in it, M. Chailly has proposed the semi-flexed position on the abdomen; unfortunately, such result is far from being obtainable, and the experiments made by MM. Schreger and Sanson have proved that women placed in the position indicated by M. Chailly, have been able to maintain it only a short time, because it is too awkward and painful, and threatens speedily to produce sloughs on the knees, elbows and iliac spines.

### TEMPORARY PALLIATIVE METHOD.

In some cases, the palliative method ought to be temporarily employed; for example, it should be resorted to in cases of transverse and oblique fistula the edges of which remain separate, in spite of abdominal compression, the various positions given to the patient, and the formation of fibrous tissue on the lips of the perforation; we should, therefore, before commencing a curative treatment, insist, for a longer or shorter period of time, on warm baths and injections, emollient fumigations directed towards the sexual parts, and, in fine, have recourse to the employment of all the means capable of facilitating the descent of the uterus, and especially the relaxation of that part of the vagina situated above the fistulous orifice.

During the time not yet very remote, when it was supposed that the cure of vesico-vaginal fistula was always beyond the resources of art, and especially that it was useless to attempt the radical cure by means of a surgical operation, the palliative method, which was generally employed with the sole view of diminishing the inconveniences of a disgusting infirmity, was sometimes found to be successful in the cure of the patient. Fabricius Hildanus,* who died at Berne, in 1634, relates a complete cure obtained in this way in a lady affected with a vagino-vesical fistula, following a laborious labour. According to this celebrated author, the cure was obtained by a treatment of eight months' duration, which consisted simply in the use of some purgative doses, and of frictions upon the loins, but especially in the frequent employment of injections, composed of a decoction of barley, of quince-seeds, and the seeds of the fenugreek (trigonella fœnum græcum), to which he added oil of sweet almonds and honey of roses. We subjoin, moreover, the most important passage from this curious

* Opera Omnia, centur. iii. observat. 69.

case: "Illa autem continuò usa medicamentis (ut dixi) conglutinantibus, et per intervalla etiam purgantibus, intra menses octo, non sine admiratione omnium eorum quibus res cognita plane curata fuit, adeo ut nunc Dei optimi maximâ gratiâ ne guttula quidem urinæ involuntariæ affluat, sed à vesicâ colligatur, retineatur et excernatur non aliter ac si antea nunquam male affecta fuisset."

### OF TAMPONNEMENT, AND OF DESSAULT'S METHOD.

Recourse has been had to a large, cylindrical tampon of linen, introduced and maintained within the vagina, for the purpose of closing the fistula, and to press its anterior against its posterior lip, so as to effect their cicatrization, by keeping the opposite edges in as close contact as possible. This method, which was first employed by Fabricius Hildanus,* Hilscher,† Paletta,‡ and also by Dessault, who added the sound already proposed by Schulzius,§ and made use of by Boudon,‖ and J. Paletta,¶ seems in some cases to have succeeded, especially in the treatment of urethral fistula, and also those of the bladder, when they were recent, of slight extent, and presented a transverse opening. In more severe cases, the use of the vaginal plug is almost always useless, and fails, in spite of all the patience of the sick, and all the dexterity of the physician.

This method, which, besides the inconvenience of its rarely attaining the success we seek, has the further one of requiring a protracted application of from six to ten months, is described by Dessault in the following manner:

That great surgeon, in his treatise on urinary diseases, recommends the introduction into the bladder of a sound, of large calibre, with very large eyelets, to be retained by means of an apparatus like a truss; the circle of which, being long enough to embrace the upper part of the pelvis, supports, at its middle point, an oval plate, which should be placed on the pubis. In the middle of this plate is a groove, in which slides a silver rod, curved in such a way that one of its extremities, pierced with a hole, falls over the vulva, upon a line with the meatus urinarius. The rod of silver is fixed upon the plate by means of a screw. When all is arranged in the mode that we have just described, the end of the sound is passed through the opening in the rod traversing the groove.

This kind of truss, invented by Dessault, was preferable to the double T bandage in use; to which ribbons were fastened, carried over the outer end of the sound, and afterwards attached to the hair of the vulva.

The lips of the vagino-vesical perforation were then brought as close together as possible, by means of a linen plug, introduced into

* Opera Omnia, centur. i. observ. 68. † Chirurg., de Haller, tom. iii. § 599.
‡ Chirurg. deuxième partie, (loco citat.)
§ Deuxième Supplément aux œuvres de Frédéric Hoffman.
‖ Traité des Accouch., conten. des observ. import. par Nicolas Puzos, p. 138.
¶ Chirurg, (loco citat.)

the vagina, and pushed from without inwards, in order that the fistulous opening might in this way be entirely closed, and, at the same time, be converted into a transverse slit.

This method, the only one of which Professor Boyer treats, and which, as we have proved, ought not to be attributed to Dessault, except as regards the truss, was employed several times, with success, by that great surgeon, who, however, reports but a single case, that of a female, which *appears to have been cured.* As it required months, and even years, of the permanent use of the plug and sound, to obtain any results, we think that the cures which have been thought to result from the employment of such means, might have occurred, in most of the cases, spontaneously, or at least with the aid of a sound retained in the bladder.

Though we must reject, in general, the method indicated by Dessault, we believe that in cases of perfectly transverse fistula, it might often be used with advantage, provided some modifications that we are about to mention were made in it.

In the first place, before introducing a tampon into the vagina, it would be necessary, in order to place the wound in the best possible condition, to cauterize the cicatrized edges separately, taking care to act principally upon the angles where the agglutination always commences.

In case the edges of the fistula should be very much separated, that is to say, if it were a very large one, and almost circular in shape, instead of resorting to cauterization, we ought, in order to give to the oval perforation as much as possible the form of a button-hole, which is the most favourable to reunion,—we ought, we say, in the first place, to enlarge it a little, in the direction of its greatest diameter, by means of a small incision, half a line, or a line, on either side, and then freshen the lips of the opening, as we shall show in speaking of other methods of operation.

The plug, introduced into the vagina, should be a sort of pessary, made of gum-elastic, of a conoidal form, with its base upwards, whose circumference should not be prolonged beyond some five or six lines, so as to press backwards the anterior edge of the fistula, by means of the transverse tension which would be produced in the direction of the greatest diameter of the aperture: finally, the forward pressure, or rather the approximation of the posterior lip, would be facilitated by the weight of the womb, rendered slightly prolapsed by means of a reclining position directed for the patient, and, with the aid of a bandage around the trunk, designed to fix both the sound and the pessary.

### OF CAUTERIZATION.

Cauterization, though seeming at first view to tend merely to increase the loss of substance and the extent of the perforation, was used with success by Monteggia,* and, in like manner, by Dupuy-

* Maladies Chirurgicales, t. v. p. 339.

tren; it constitutes, nevertheless, one of the best means which the art can oppose to vesico-vaginal fistula. This method, the happy results of which are especially observable where the perforation is of small extent, is worthy of all attention from practitioners; but, in order that it may be crowned with success, we must know how to apply it properly, and according to certain rules which we shall soon describe.

Cauterization should be practised only with the actual cautery, or with the nitrate of silver; and we should always reject as useless, and even injurious, both the acid nitrate of mercury, and the concentrated acids which were first employed by Professor Dupuytren. The nitrate of silver is generally preferable; and we should resort to the incandescent wire, which acts more rapidly and with greater energy, only where the edges of the fistula are hard, callous and difficult to irritate.

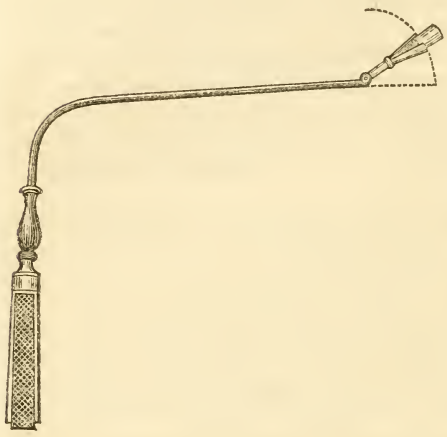
Whether we use one or the other of these two modes of cauterization, the patient must be placed in the position which we have advised for the application of the speculum, that is, on the back, with a folded sheet under the hips, the head supported by pillows, the thighs flexed upon the abdomen, the legs upon the thighs, which should be separated and firmly held by assistants. Nevertheless, to prevent the urine from extinguishing the cautery too soon, when the wire is used, it would, perhaps, be convenient to place the female in the opposite position, that is to say, on the hands and knees. Should we adopt this last method of cauterization, it becomes necessary, in order to protect the surrounding tissues, and leave only the fistula uncovered, to introduce into the vagina a common cylindrical speculum, but having, in the whole or a part of its length, a fenestra placed so as to correspond to the vaginal perforation. When all has been thus arranged, we must apply to the circumference of the fistula a large stilet, heated to a white heat, or a small cautery, in the shape of a bean, which we must be careful to retain in contact only a few moments, in order to irritate merely the edges of the wound, and not to erode and destroy them by prolonging the application of the heat too long. Professor Delpech, who, like Dr. Bellini, of Rovigo, has successfully employed the actual cautery, thinks that it should be applied less to the vesical portion than to the vaginal circumference of the fistula, so as to prevent, as far as possible, loss of substance, while producing the irritation necessary to effect the contraction of the lips of the wound and its cicatrization.

Fig. 21.

To perform the operation of cauterization with nitrate of silver, the patient should be placed as we have above directed, and the speculum should likewise be applied according to the rules which we have just laid down. After having fixed a piece of solid lunar caustic in a port-crayon, by means of a thread, in such a way that it may form a right angle with the blades of the instrument, the surgeon should

carry the caustic into the vagino-vesical aperture, and rub it during a proper period, on the edges and angles of the wound, which latter he should in particular cauterize completely; for it is there, as we have already said, that the agglutination always commences. In order to prevent the hand from masking the parts, and to render the operation very easy, whatever be the form, extent and situation of the fistula, we have caused a caustic-holder to be made, whose handle is bent at nearly a right angle, while its anterior extremity is movable, so that it may act in all directions. This instrument, which resembles the letter Z, and which we have called a *vagino-causte*, is merely a modification of the caustic-holder, which we daily use for the cauterization of the tonsils and the walls of the pharynx. (*See fig.* 22.)

Fig. 22.



In whatever mode the cauterization may have been performed, it is useful to resort at once to emollient injections, and to place the patient in a warm bath, in order to diminish the pain which follows the operation, and prevent too intense an inflammation, which might supervene.

In general, a single cauterization with the nitrate of silver is not sufficient to freshen the edges of the fistula, especially when it is hard and callous; in this case, it becomes necessary to repeat the operation, allowing four or five days of interval between each cauterization, to permit the slough to fall; finally, when the edges are fully renewed, a catheter should be introduced and retained in the bladder, so that the urine, escaping freely into a vessel placed in front of the vulva, may not prevent the approximation of the parts. As long as the occlusion of the aperture remains imperfect, we should persevere in these measures, especially if we perceive that the diameter of the fistula gradually diminishes.

We shall conclude by saying that cauterization favours the cicatrization of vesico-vaginal fistulas by three simultaneous modes of action; 1, by freshening the edges of the orifice, and thus placing them in a condition favourable to their cohesion; 2, by inducing tumefaction of the edges, and producing a new tissue (inodular tissue), whose contraction contributes powerfully to the approximation of the parts; 3, by modifying the nature and vitality of the vagino-vesical mucous membranes, and destroying the epithelium, which, in its natural state, is the principal obstacle to their cohesion when put in contact; finally, we shall add that cauterization is commonly

followed by success, only in small fistulas and in urethro-vaginal fistula; as it almost always fails in those extensive perforations that we most desire to cure, it should be rejected in severe cases, while, in order to terminate the cure of fistulas that we have succeeded in diminishing, recourse is *always* to be had to one of the methods yet to be described.

## OF THE SUTURE.

The use of the suture, in the cure of vaginal fistula, dates only from the early part of this century. J. L. Petit* thought it so ineffectual, that he violently contended against the advice of a physician called in consultation with several others, on a lady affected with vesico-vaginal fistula. This celebrated surgeon, who died in 1750, says, in his posthumous works published by Lesue, his former pupil, that the consulting physician who proposed the suture, and who, moreover, stood alone in his opinion, adopted the common opinion, because he made him feel "not only the difficulty of performing the operation in a part so deep-seated and obscure; but, also, the necessity of freshening the edges of the whole circumference of the perforation, and the impossibility of doing it completely."

According to M. Chelius, to whom Professor Velpeau† refers, the suture was proposed by Roonhuysen, an accoucheur and surgeon at Amsterdam, who flourished about the middle of the seventeenth century, and was celebrated as the inventor of the lever, which was for a long time a secret as to the public. The method of Roonhuysen, which appears to have been pointed out to him by his nephew, consisted in freshening the edges of the fistulous orifice, re-uniting them by means of needles made of pieces of swan-quill maintained by the twisted suture, and, lastly, in filling the vaginal cavity with sponge. It would seem that this method afterwards succeeded in the hands of Fatio and Walter; but the proofs we have of their success are not sufficiently conclusive and authentic to remove all doubt in regard to it.

M. Lewzinski proposed the suture, in a thesis defended before the Faculty of Medicine of Paris in 1802. The instrument that he recommends for the operation, is simply a flat catheter, slightly curved, and pierced with two holes at its vesical extremity, so as to give passage to a needle also curved. After the catheter has been introduced into the bladder, "the needle is pushed along the vagina through the posterior lip of the fistula, by means of a watch-spring, contained in the hollow of the instrument. The needle, which has thus traversed the vesico-vaginal septum, is immediately withdrawn through the vulva, bringing along with it a thread, of which a suture point is made, after having perforated the opposite lip of the wound; finally, when a number of threads sufficient to keep the edges of the

* Traité des Maladies Chirurg. et des Operat. etc., tom. iii. p. 87.
† Médecine Opératoire, tom. iii. p. 648.

division in contact have been in this manner adjusted, they are knotted and secured by means of a *serre-nœud.*

M. Nægèle, professor at Heidelberg, used the suture successfully in 1812. For its application he proposes several methods, which we shall describe, after explaining the mode he takes to freshen the edges of the wound, and which he executes in the following manner: After introducing a catheter into the bladder, which ought to be held there firmly, he carries a pair of sharp-pointed scissors into the vagina, by conducting them along the fore-finger, and with them dissects the tissues so as to revive the edges of the fistula which are supported by the catheter. If this cannot be completed with the scissors, he terminates it by means of a bistoury with a concealed blade, which is projected as soon as it comes in contact with the parts on which it should act. When the edges of the fistula have been sufficiently renewed, Professor Nægèle proceeds to the ligature, first, by means of a needle, like Deschamp's needle, for the ligature of the popliteal artery. This needle, mounted upon a ring in which the fore-finger of the right hand engages, is carried on the left index, which covers its point, until it reaches that part of the edge of the fistula which we wish to puncture. Then the finger, which now ceases to cover the point of the needle, supports the lip of the wound during the puncture, which takes place first from the vagina towards the bladder, and then from the bladder towards the vagina for the opposite side.

As soon as the point of the needle appears, after traversing the vesico-vaginal septum, the ligature, which is carried by an eye in the needle, is disengaged, and the needle itself withdrawn by a retrograde movement, in order to arm it with a new thread, so as to apply as many sutures as may be deemed necessary. Finally, the operation is terminated by uniting the ends of all the ligatures, which are twisted and their ends secured by means of adhesive strips, after which, with the view of supporting the anterior wall of the vagina, a quantity of charpie is introduced into the cavity.

M. Nægèle proposes another method which consists in piercing the edges of the fistula with curved needles, each held in a pair of forceps; when the needles have perforated the vaginal septum, they are left in situ, and after having withdrawn the forceps, are surrounded by a waxed thread which approximates the edges of the wound, in the manner of the twisted suture.

Finally, M. Nægèle has described a third method, which differs so little from that of M. Lewzinski, that we deem it sufficient to state that it is also executed by means of a curved catheter containing a spring terminated by a spear-point, the eye of which carries a waxed thread. The mechanism and application of the instrument are in other respects the same as in the proceeding of M. Lewzinski.

M. Ehrmann, of Strasbourg, and also M. Deyber, have succeeded in curing vagino-vesical fistula, by means of the suture, applied with a curved needle, that was carried into the vagina upon a port-needle, (*porte-aiguille,*) similar to that which Professor Roux makes use of for staphyloraphy. The ligatures were crossed in such a

way that the end of the first escaped by the right side, and the other at the opposite side. The second ligature was placed in the opposite direction, and then all the ends knotted on each side.

M. Schreger, who had brilliant success with the suture of Pelletier, has practised it by means of a curved needle and forceps of a peculiar kind; when the ligatures had been put in situ, he passed their extremities through a number of beads and then made a knot on the last one.

M. Chranam has also used the suture with success, employing the same method nearly as MM. Ehrmann and Deyber: at the end of five days, the ligatures fell off without the knots having been untied, and the cure was perfect.

Again, on the 28th August, 1828, M. Malagodi of Bologna, was as fortunate as the gentleman we have just cited, in the application of the suture for uniting the edges of a vesico-vaginal fistula: this dexterous surgeon describes the operation himself in the following words:

"I introduced the index of the right hand, covered by a leather finger-stall, into the fistulous opening; I flexed the two last phalanges into the shape of a hook, and, dragging the left callous edge of the opening downwards, drew it as near to the orifice of the vagina as possible: I then took a straight bistoury in my other hand, and cutting upon my finger, made a semi-lunar incision in the edge which I had caused to project. I repeated the same operation on the opposite side, changing, of course, the hand; that is to say, introducing the left, and operating with the right hand. By freshening in this way the edges of the wound, I had not yet attained the end which I sought to establish, namely, union by the first intention. Three pieces of ligature, having at each of their extremities a very small curved needle, and a rod upon which the needles could be fixed and left at will, were the instruments with which I had provided myself to effect this reunion. I introduced the right index finger into the freshened opening, so that the back of the hand was towards the body of the patient, the thumb below and the little finger above, and then drew into sight the left lip of the vagino-vesical orifice. Pushing with the left hand, a needle fixed in its handle, I now engaged it near the posterior angle of the wound, making it penetrate, with the aid of the fingers, from behind forwards. After this first needle, I passed a second in the same way, then a third, at equal distances; so that having repeated the operation on the opposite side, I tied the ligatures, two and two, and could then bring the edges of the wound, throughout their whole length, which I had before made to correspond by the two semilunar incisions, into immediate contact.

"I placed the patient in bed, and cautioned her to lie upon her back. I introduced a catheter into the bladder, through the urethra, which was to remain there, to conduct the urine discharged by the ureters, into a vessel placed below. This precaution seemed to me indispensable, lest the retention of the urine might interfere to prevent the immediate reunion which I sought to obtain.

"During the second day, the urine passed through the catheter, and

not a drop by the wound. It was not so on the following day, when I found the charpie which I had introduced into the vagina bathed with urine; on the fourth day I placed the patient in the position for the operation. I saw that the two posterior points of suture had maintained themselves; I removed them, and the reunion was found to be quite perfect where the edges had remained in contact. The anterior suture point, on the contrary, had lacerated the left lip of the wound; from which it happened that about one-third of the primary opening had not cicatrized. I did not despair, nevertheless, of obtaining a complete cure, even though cauterization with the nitrate of silver had produced no advantage when the fistulous opening allowed of the passage of the finger: I hoped that the same remedy might be more efficacious now, when the opening had been reduced to the diameter of an ordinary catheter. I had recourse, therefore, to cauterization, and at the end of about three weeks, obtained a sensible amelioration. The catheter was constantly kept in the bladder. I continued the use of the caustic during some weeks, and the patient was entirely cured towards the beginning of January."

Though the suture be of very difficult application, and even while its employment has not been crowned with success in the hands of such skilful practitioners as MM. Roux, Dieffenbach, Dugès, Robouham and some others, we yet believe that it is the best means we can make use of in cases of transverse and oblique fistulas, the edges of which cannot be properly approximated, and the cure obtained either by cauterization, or by the methods of which we have yet to speak of.

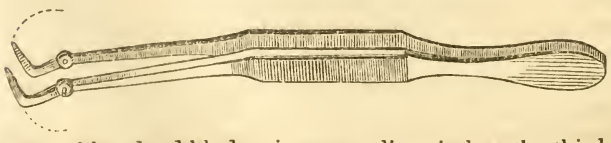
## METHOD OF THE AUTHOR.

With a view to render the application of the suture incomparably more easy, we have invented various instruments and methods, which differ according to the direction of the vagino-vesical perforation.

When the diameter of the opening is large, and presents itself in a longitudinal direction, that is to say, antero-posteriorly, we resort to the continuous suture, (whip suture—furrier's suture,) which is employed advantageously for the union of wounds of the intestines and stomach, and proceed to its application in the following manner:

Having placed the woman in the position described in speaking of cauterization, and exposed the fistula by means of a *speculum*, with a longitudinal fenestra, (*vid. figs.* 25, 26, 27,) we seize one of the edges with a pair of forceps, made movable, and so arranged that they can act in every direction, whatever be the direction of the wound.—(*See fig.* 23.) The edge, held in the forceps, is then removed by means of a small probe-pointed, double-edged blade, nine or ten lines in length; this blade, mounted

Fig. 23.



vertically and at right angles, upon an iron rod, four or five inches long, and terminated by a handle, curved like that of the speculum, may be turned so as to cut from before backwards, from right to left, or obliquely, according to circumstances.—(*See fig.* 24.)

Fig. 24.

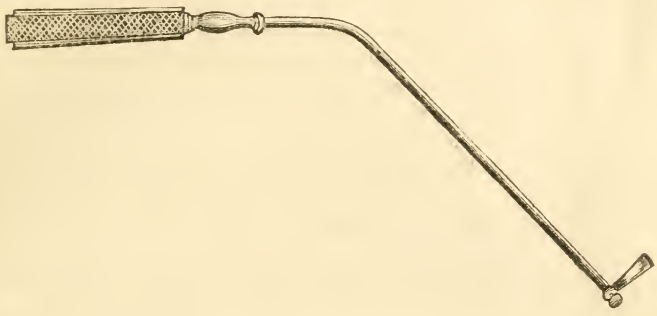


Fig. 25.

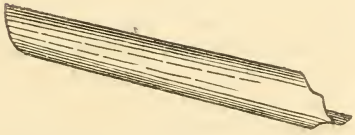


Fig. 26

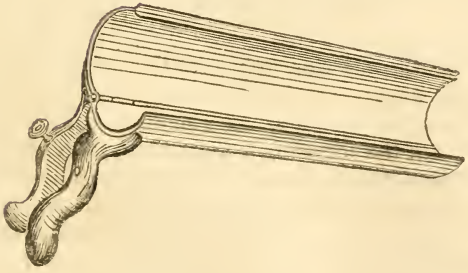
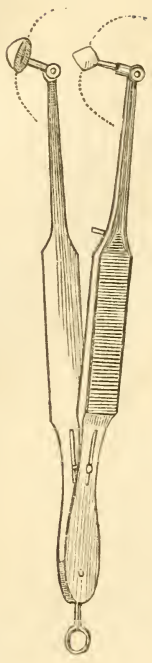


Fig. 27.

We have also invented, for the purpose of *freshening* the edges of the fistula, a pair of long forceps, whose blades, one cutting,

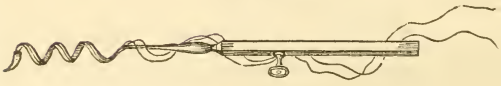
Fig. 28.



and the other terminating by a small leaden plate, intended to sustain the tissues during their suture, are movable, like those of the other forceps, and so arranged as to act in all directions. —(*See fig.* 28.) Moreover, whichever of these instruments we may choose, we should take care to enlarge the angles of the fistula half a line, or a line, at most, with the small double-edged blade, so that the renewal may be quite perfect at these points where the cicatrization always commences, and also to give to the perforation as nearly as possible the form of a button-hole, which is very favourable to the reunion and agglutination of the parts.

After finishing this first step in the operation, which is properly regarded as the most difficult, and that upon which success in great measure depends, we approximate the raw edges, by means of a spiral needle like a cork-screw. This needle, fixed upon an ivory handle, has, at its sharp extremity, a small spear-head, three or four lines long; and at the opposite end, that is to say, at its point of union with the real instrument, an eye armed with a ligature, which is lodged in a groove, formed in the external edge of each circumvolution, and there secured by a small screw, with a projecting head.—(*See fig.* 29.)

Fig. 29.



We introduce the perforating instrument, thus armed with its ligature, into the cavity of the speculum, to a point corresponding with the inferior angle of the fistula, then, commencing upon its vesical aspect, we perforate the left lip two lines from its edge, and causing the handle of the needle to execute a movement of demi-rotation with the fore-finger and thumb, and afterwards a slight see-saw movement from above downwards, and from left to right, we pierce the opposite edge, which is traversed, therefore, in a contrary direction, that is to say, from the vagina to the bladder.—(*See fig.* 30.) We continue the same process until the lips of the perforation are completely approximated throughout their whole extent; then, with the blades of the forceps, which have served to fix the edges of the fistula during the operation, we seize the spear-head, to render it immovable, while we impart a slight rotary movement to the rest of the needle from the opposite side. To prevent the ligature from being loosened, its two ends, brought out at the

Fig. 30.

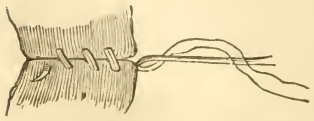


Fig. 31.

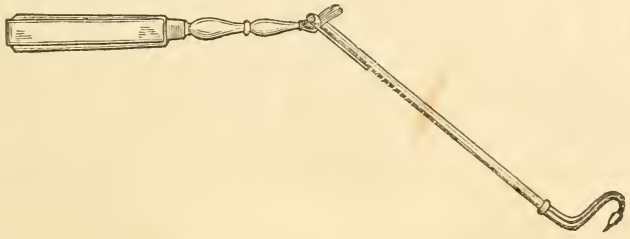
vulva, are twisted together throughout their length, and then fastened close to the suture by means of a small portion of sealing wax, heated until softened.—(*See fig.* 31.) When we suppose the union to be perfect, we cut the threads, above the point where they are fastened by the wax, and carefully withdraw them.

This method has the advantage of being more easily applied than any of the others, and also of perfectly uniting the lips of longitudinal fistulas, by means of the whip-suture, which is more regular and equal even than when made in cloth, with a common needle. We must, moreover, recall to the reader's attention, that it was to the use of the whip-suture that M. Schreger is indebted for the success we have above related.

As our spiral needle is applicable only in cases of longitudinal fistula, we have invented other needles for the treatment of transverse and more or less oblique vagino-vesical perforations by suture.

The needles, two in number, are arranged as follows: a shank, mounted upon a handle, bent at an obtuse angle, forms a kind of forceps from its upper and third portion, and is then divided into two blades, which are afterwards curved vertically at a right angle, and which again, at the distance of eight or nine lines, are once more curved for about a line, in order to seize by their approximation by means of a sliding-ring, a little spear-point, of about three lines in length, the end of which descends again parallel to the ascending shank.—(*See fig.* 32.)

Fig. 32.

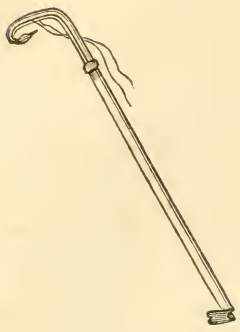


This perforating extremity of the instrument has, at its other end, an eye, into which a ligature is passed and lodged in a groove cut in the length of the shank, and secured by means of a small screw-head, placed near the handle.—(*See fig.* 33.) The only difference between the two needles is that the spear-point of the one which serves to pass the ligature through the posterior edge of the fistula, descends again in front of the vertical shank, while that which is designed to place the ligature in the lip nearest the vulva is terminated by a little spear-point, which is behind the same shank.—(*See fig.* 34.)

Fig. 33.

After the edges of the fistula have been freshened, by means of the instruments, and in the mode described above, we carry into the cavity of the speculum and up to the fistula, the needle whose perforating extremity is beyond the vertical shank, (*fig.* 33,) and after introducing it into the bladder through the fistulous orifice, lower the

Fig. 34.



whole instrument until slight resistance is felt from the perforation of the posterior lip, which ought to be made about two or three lines from its edge, not by strongly pressing upon it, as this would endanger laceration, but by gentle lateral movements. Then, removing the slide which held the blades together, and disengaging the ligature still fixed to the instrument, we remove the latter from the speculum, and by means of the forceps with movable blades, which served to sustain the parts during their renewal and perforation, seize the spear-point which projects into the vagina, and bring it towards the vulva, in order to separate from it the ligature, one of whose ends is withdrawn from the wound.

Having applied as many points of suture as necessary in the posterior edge of the fistula, we place the same number with the other needle, in the anterior lip, taking care that each suture be made with the same thread; that is to say, that the largest end of each thread, placed in the posterior lip, shall serve for the opposite and corresponding point of the anterior lip, and so as to the others. Finally, when all the sutures have been inserted in both edges of the fistula, we readily recognize the ends which correspond, and which should be tied together, by means of the precaution we always take to place a white thread for the first ligature, a red, or some other striking colour, for the second, a black for the third, etc. This precaution, which may seem puerile, or, at least, useless, to some persons, lessens very considerably the time taken up in ascertaining the ends of the several ligatures. This done, we tie the threads of the same colour in a double knot, possible; or, should this be too difficult, by a single knot, which is prevented from being loosened by twisting the two ends of the threads nearly up to the suture, and securing them both with a little common wax, or sealing wax softened by heat. If nothing interferes with the progress of the agglutination, it may be completed on the fourth or fifth day; but unless something occurs to make it necessary, it is better not to examine the parts with the speculum earlier than the eighth day, and even then it must be done with the utmost care, and with a small speculum having a large opening in the direction of its long diameter. In order still more to avoid every kind of stretching, we should endeavour to explore the wound with the rectum-speculum, or by merely separating the vaginal parietes with the fingers. Should we be in too much haste to ascertain the condition of the parts, the success of the operation might be compromised, as indeed has sometimes happened, particularly after the use of the cautery; on the eighth day, the ligatures at the angles of the wound may be removed, and two or three days later, the others. Generally, three ligatures suffice for the largest fistulas; very rarely more than four are applied; long scissors, with very narrow blades, and blunt points, serve to cut the threads, and to secure them, they

are to be seized with a pair of forceps, which may usually be done with great facility.

The method we have just described for the relief of transverse and oblique fistulas, in which cauterization would have failed, is equally applicable to longitudinal fistulas, provided, to unite their edges, we employ the interrupted, in preference to the whip suture by means of our spiral needle.

We think we may affirm that the instruments and modifications proposed by us have the advantage of rendering the renewal and reunion of the edges of all vagino-vesical fistulas, easier, quicker, and always practicable, be their form, extent and situation what it may. Indeed;

1. The renewal of the edges of transverse and oblique fistulas, which is the most tedious and difficult part of the operation, is easily and rapidly accomplished, either by means of our double-edged knife with vertical blade, which takes any desirable direction, or with our cutting forceps, whose movable blades are so arranged as to cut either from behind forwards, from before backwards, from right to left, or obliquely.

2. The union of the edges is effected with equal facility, in longitudinal fistula, by our spiral needle, and with our two needles with curved shanks and handles, terminated by a small spear-point, which may be placed in the edges of any vaginal fistula, whatever be its direction.

3. Our forceps, designed to sustain the edges of the wound during their removal by the cutting instrument, and perforation by the needles, are applicable in every direction, and are especially adapted for seizing the anterior lip of transverse and oblique fistulas, which it is impossible to do with any other forceps. We may add, that our bent and movable cautery and our caustic holder, of the same shape, render the cauterization by which we should always commence the treatment of vaginal fistulas communicating with the bladder or rectum, both easier and more commodious.

### OF THE APPROXIMATION OF THE EDGES OF VAGINO-VESICAL FISTULAS BY MEANS OF PECULIAR INSTRUMENTS, WITHOUT THE USE OF THE SUTURE.

In 1826, Professor Lallemand, wishing to combine immediate union of the wound with previous cauterization of its edges, resorted to the following method:

In the first place, he cauterized with lunar caustic fixed in a ring carried upon the index finger until the lips of the fistula were moderately inflamed; he then introduced into the bladder through the urethra, a silver catheter, called a hooked catheter, (*sonde airigne*,) the object of which is to procure a constant flow of urine, and which contains in its cavity curved hooks moved by a screw also placed in the interior of the instrument, in such a way as to project through the eyes of the instrument at will, and to become attached to the posterior lip of the fistula about six lines beyond its edge. A finger car-

ried into the vagina, sustains the anterior paries of that canal, prevents its yielding, and facilitates the insertion of the hooks. When these have firmly seized the vesico-vaginal septum, a silver plate, which has been until then retained in the anterior extremity of the instrument, is pushed towards the beak of the catheter by a spring with a button-end, and left to itself. A thick layer of charpie, placed in front of the urinary meatus, receives the pressure of the plate which forces the canal of the urethra and the anterior edge of the fistula backwards, whilst the posterior lip is drawn forwards by the hooks of which we have spoken. The learned and ingenious author of this method and apparatus has published a case of chronic vesico-vaginal fistula cured by its application; but it would seem from Professor Velpeau* that the success was not permanent, and that in that patient, as well as several others treated in the same way, the infirmity returned just as before the operation. We cannot moreover determine any thing from the satisfactory results which were at first obtained; for as the operation had been commenced and terminated by cauterization, it might very well be that the first successes were owing to this means which already numbers a good many examples of complete cure. We add, moreover, that other attempts, made with the apparatus of M. Lallemand, as well as that we witnessed in 1829, at the hospital of Beaujon, did not yield the good results at first looked for.

The illustrious Dupuytren successfully used an instrument, consisting of a large female catheter, which has upon its sides two leaves, opening like wings or shutting up closely, according as we withdraw or push forwards a central movable stilet, intended to move them. After the closed instrument has been passed into the bladder, we open and fix the movable leaves by means of the central stilet, and then draw it towards us as though we designed to remove it while arranged in this manner. The leaves remaining separated, prevent the catheter from engaging in the urethra, but they drag forwards the posterior lip of the fistula, at the same time that the urethra and anterior lip are forced backwards by means of a tampon of charpie or linen, placed between the urinary meatus and the external portion of the instrument. This process, which possesses the advantage of perforating neither the vagina nor the bladder, seems to us to be incapable of effecting the complete approximation of the edges, and it is probable that the successes which have followed its employment are due to the cauterization, to which it may become, however, an useful accessory.

M. Laugier invented a hooked forceps, intended to approximate the edges of fistulas, which, unlike M. Lallemand's, acts from the vagina towards the bladder, by changing the direction of its hooks, according as the perforation is transverse or longitudinal. In the former case, the hook-forceps presents two parallel blades which glide upon each other, or separate at will, and are terminated at their holding extremities by a double hook intended to be fastened in the anterior and posterior edges of the fistula. After the parts are seized, a simple contrivance brings the hooks together so as to ap-

* Médecine Opératoire, t. iii. p. 654.

proximate the edges. In longitudinal fistulas, it is necessary that the hooks on each claw should be parallel to the axis of the body, and the extremity that supports them, bent upon the edge: lastly, the forceps should have the blades more or less curved, where the fistula is oblique. When the coaptation is effected, the whole is maintained in place by means of charpie, placed in the anterior part of the vagina. The method of M. Laugier, which we have been told was lately employed unsuccessfully by himself, has inconveniences like the others, which have been pointed out by M. Velpeau, and which we refrain from mentioning here, lest we should extend our remarks too far. It is for the same reason, that we avoid describing the method and instruments proposed by Doctor Dufresne Chassagne, in a thesis defended by him before the faculty of medicine of Paris, on the 30th January, 1834, and which may be consulted with advantage.

It now remains for us to speak of the instruments invented by M. Récamier, which were exhibited to us by that celebrated and dexterous practitioner. One of them, intended for reviving the edges of the fistula, has two stems which slide upon each other. The larger of these stems, hollow in its whole length, is terminated at its vesical extremity by a small square plate, and is bent above at a right angle, so as to rest against one of the lips of the vagino-vesical perforation, and revive it by an incision made with a small cutting blade placed at the end of the solid stem, sliding in the first. Another instrument, differing slightly from this, is employed for the renewal of the other edge. When this first step of the operation is finished, a kind of small steel forceps, terminated by several claws of silver, is intended to unite the edges of the fistula, by the approximation of the two blades of the instrument. Though these different methods proposed by M. Récamier are very ingenious, we think that, having been made for a particular case of longitudinal fistula, they would require several modifications to become applicable in cases of oblique and transverse perforations.

We shall conclude our remarks on the treatment of vagino-vesical fistula by saying, that the hooks which are applied with difficulty in longitudinal fistulas, might be substituted by a spiral needle like that we have already spoken of, with this difference, however, that it should have no groove, and must be made according to the size of the perforation, so that when once applied, it may remain untouched and preserve the edges of the wound united much better than any of the catheters or hook-forceps. The spear-point which terminates the needle, should be removed when it is fixed in the vagino-vesical septum; and when the operator supposes the consolidation to be complete, he readjusts the handle which had also been withdrawn and had served to fix the instrument; he then disengages the needle properly so called, by unscrewing it, and by following a direction the reverse of that which he had used for its application to the edges of the fistula.

Fig. 35.

Whatever be the method used in the treatment of these cases, a catheter must be kept in the bladder, and abdominal compression, suitable position, and, in fine, whatever can serve to favour the coaptation of the parts, and the escape of the urine through the canal of the urethra, must also be attended to.

We have still to refer to a method which *M. J. Jobert de Lamballe* appears to have used successfully, *videl.* the closure of a shallow fistula in the vagina by means of a flap taken from the inner surface of one of the labia externa by careful dissection, then carried from before backwards and maintained upon the anormal perforation, with suture points.

Fig. 36.

Seeing that almost all the surgical means for the treatment of vagino-vesical fistula failed, one of the most distinguished of our young practitioners, M. Vidal de Cassis, conceived the idea of obliterating the vagina, so as to make it an appendage to the bladder, and a sort of bas-fond for this organ. This method, which was employed by its author, on the 5th July, 1834, at the venereal hospital, upon a female whose vagino-vesical septum was largely perforated, with great loss of substance, is executed by means of two strong straight needles mounted upon small ebony handles, whose perforating end arranged in the form of a spear-point, has an eye in the centre large enough to receive a double ligature. After having freshened the whole circumference of the vaginal orifice, one of the needles is inserted a little within the right nympha three lines from the bleeding surface, and as soon as the spear-point projects into the vagina, the loop of the double ligature is seized with a pair of dissecting forceps which should be held by an aid, while the needle is withdrawn by the same route that it was introduced. Then the other needle is inserted in the same way as the first, but upon the opposite side, and a little within the left nympha, after which the ligature, having been seized as the first was, the instrument is withdrawn, deprived of its ligature as upon the right side.

After the needles have been removed, the two loops of thread remain at the orifice of the vagina; the left loop should be passed through the right, so that by drawing down the two threads forming the latter, we shall bring along with them the threads which form the other one. It follows from this that the double ligature of the right side is drawn completely away, whilst the double thread of the left side follows the route which the two needles pursued, in order that it alone may effect the reunion of the two edges of the wound. If we wish to employ the quill suture, it is only necessary to separate the two threads and interpose between them a piece of catheter or the end of a quill; if the simple suture should be preferred, we have merely to cross the threads and tie them.

The vaginal obliteration attempted by M. Vidal, in the mode just described, was not followed by entire success. The union of the

parts became quite established, cicatrization was rapidly advancing, the urine escaped wholly by the catheter introduced into the bladder, and every thing promised success, when the resident physician attached to M. Vidal's wards, broke open the nearly complete cicatrix, because the patient complained of pain above the vaginal obturation. It is unfortunate that this attempt, as novel as it was ingenious, was not followed by the result which every thing at first gave reason to hope for.

We fear that the closure of the vagina, proposed by M. Vidal, though its object be to remedy a disgusting infirmity, which is generally beyond the resources of our art, can rarely be employed, because, even supposing that no objection could be made to it on account of the injurious action which the urine would probably exert on the walls of the vagina, it would still have the inconvenience of preventing the flow of the menses which could take place only through the urinary meatus, and besides, it would be a positive obstacle to a sexual intercourse. If the method were essayed only upon women of advanced age, most of these objections would no longer hold, and the chances of success would be much greater. However, the suture applied in the mode just described is extremely simple and easy; we regard it as highly advantageous for the reunion of very thick tissues presenting broad surfaces, as happens in suture of the perineum, which has been successfully performed twice by M. Vidal.

## OF RECTO-VAGINAL FISTULAS.

By recto-vaginal fistulas, are meant perforations that open a communication through the posterior wall of the vagina, and the anterior wall of the rectum.

These fistulas, which are generally longitudinal, are mostly the result of lacerations produced during labour, either by the head of the child or by the blades of the forceps. They may also be caused by cancerous or syphilitic ulcerations of the recto-vaginal septum; by the presence of a lipoma or any other tumour which has become inflamed and produced an abscess communicating with the rectum; finally, they may be produced by angular bodies introduced accidentally into the rectum or vagina, and especially by the action of pessaries on the posterior wall of that canal.

Several authentic cases go to prove that communications between the vagina and the rectum may be congenital; Barbaut* and Professor Orfila,† cite examples of the kind. The celebrated Dupuytren‡ refers to a case observed by M. Lépine, who saw a little girl six days old, in whom the vagina gave issue to portions of meconium; the child exhibited all the symptoms produced by retention of fœcal matter, and the recto-vaginal fistula had begun to be formed but a short time before, as there was no sulcus between the thighs.

* Cours d'accouchement, p. 59. † Médecine légale, tom. i. p. 150.
‡ Dictionnaire de Médecine et de Chirurg. prat. t. iii. p. 121.

A surgeon attempted to discover the anus, and made an incision through the integument of the perineum, between the point of the coccyx and the posterior commissure of the vulva. This incision disclosed a fluctuating tumour, formed of intestine, which was seen between the edges of the wound. An opening made in the lower part of the tumour gave issue to a large quantity of gas and meconium; the recto-vaginal fistula closed entirely, and the child perished three years after of a disease which had no connection with its congenital defect.

Dr. Ricord,* surgeon to the venereal hospital, reports the case of a woman twenty-two years of age, large, strong, and in good health, who is without an anus, and in whom the stercoraceous matter is voluntarily expelled through a recto-vaginal opening or rather passage.

It is probable, says M. Guerbois,† who also mentions these cases, that in this woman the recto-vaginal opening is provided with sphincters to prevent the involuntary escape of the stercoraceous matter, which would prove that nature, even in her deviations, always tends to diminish the sufferings and accidents to which the human species is exposed.

Perforations of the recto-vaginal septum, with loss of substance, give issue to the fluid portions of the fœcal matter, and intestinal gases, which latter escaping involuntarily through the fistula, pass out by the vulva, whilst the solid portions are expelled in part through the vagina, and in part through the anus, but only during defecation.

Recto-vaginal tend more to spontaneous cure than vesico-vaginal fistulas, and for this reason it is that they have attracted the attention of the profession even less than the latter. When recent, they not unfrequently close of themselves, especially when aided by absolute rest, by position upon the side, emollient lotions, mucilaginous and anodyne enemata, severe regimen, and attention to cleanliness. F. Ruysch,‡ who died in 1731, has recorded a case of spontaneous cure of a large recto-vaginal fistula. Sédillot and M. Philippe de Mortagne§ have published some nearly similar cases; Professor Velpeau also mentions a young woman in his wards, at La Pitié, who in a single fortnight was cured by injections of red wine, of a recto-vaginal fistula which had lasted eight months; finally, M. Deschamps,‖ at that time resident physician at the hospital *Cochin*, cites an example of this kind met with in a female sixty-eight years of age, who died at the hospital La Salpétrière, in 1833. Unfortunately, as M. Velpeau says, the organism does not always respond to the wishes of the physician, and perforations of the vesico-vaginal septum persist in spite of the best-directed medical treatment: we are then compelled to resort to the employment of the means already proposed for vesico-vaginal fistula; for exam-

* Journal hebdom. de Méd. t. xiii

† Thése de concours pour une chaire de clinique Chirurg., p. 20, 1834.

‡ 59th case.

§ Velpeau Médecine opératoire, tom. iii. p. 663.

‖ Guerbois, Thèse de concours, Juillet, 1834, p. 20.

ple, to cauterization, to the suture, or the approximation of the edges by means of various instruments.

When the fistula is small, cauterization, with the nitrate of silver, in the manner we described while treating of vesico-vaginal fistulas, ought generally to be made use of first; if large, on the contrary, this method, which would offer scarcely any chance of success, especially if employed alone, should be rejected; and it then becomes necessary to resort to the employment of the suture, chiefly the whip suture, made with the spiral needle described while speaking of antero-posterior fistulas of the vagino-vesical septum. Before attempting the operation the patient should be prepared for it several days beforehand, by the use of gentle laxatives, and particularly by frequent suppositories of beurre de cacao, in order to keep the bowels soluble and diminish the contraction of the sphincter ani, which often necessitates efforts for the expulsion of the fœcal matter capable of tearing the suture.

In a case of very narrow, recto-vaginal fistula, the elder Cullerier, on one occasion, successfully employed compression by means of a couple of plates, one of which was introduced into the anus, and the other into the vulva; we ought to mention that this method has been used several times by the younger Cullerier, and that that able practitioner was obliged to renounce it, on account of the numerous accidents which it occasioned. Finally, we must speak of a method which consists in treating fistulas that open into the vagina very near the vulva by incision, as though they were cases of fistula-in-ano. This method, recommended by M. Velpeau, has been several times used with success by that practitioner, and once by us in the month of May, 1835, in the case of a female twenty-nine years of age, a wine-dealer in the *rue du Cherche Midi.*

We shall conclude with the remark, that double fistula, which is most frequently caused by the presence of a pessary in the vagina, seldom requires any thing more than attention to cleanliness. We ought rarely to resort to operations in such cases, which should be performed, moreover, if at all, one after the other; that is to say, we should not seek to close the recto-vaginal fistula, until that of the vesico-vaginal septum is entirely cured. We may add, that in cases where there is some reason to suppose the affection to depend upon venereal disease, we should make use of a specific treatment, both general and local, as we should likewise confine ourselves to a palliative treatment where the perforation has been produced by cancer of the neck of the womb.

[A most ingenious and successful treatment of recto-vaginal fistula is that invented and practised by that able and well-known surgeon, Dr. J. Rhea Barton, of this city, who gave an account of it in the American Journal of the Medical Sciences, under date, *Philadelphia, June*, 1840. This most interesting case is republished here from the original, in Hays' Journal, (loc. cit.) and is republished, both on account of the intrinsic interest of the case, and for the purpose of extending still further the correction of an act of edi-

torial injustice in relation to it. The case may be found in Dr. Hays' Journal, for August, 1840, at p. 305. It is the second article of that number, and is headed

A RECTO-VAGINAL FISTULA, CURED BY J. RHEA BARTON, M. D.

"Miss R—, of Virginia, an unmarried lady, aged twenty-two, most respectably connected in Philadelphia, shortly after her return from a visit to this city, in June, 1835, experienced all the symptoms of an acute abscess in the region of the rectum and vagina. It formed, and broke on one side, and was lanced on the other. After a copious discharge of its contents, one of the openings healed, whilst the other became fistulous, and remained so most obstinately for the period of about four years; resisting both general and local treatment, including injections, tents, setons, caustic, incisions and excisions. She came to Philadelphia for further treatment, and in March, 1839, was placed under my care.

"The fistula was found commencing about three-fourths of an inch within the labium of the right side, thence passing by a very irregular course, up the pelvis, and inclining towards the rectum, into which cavity it finally opened, about three and a half or four inches from its inferior aperture in the vagina. Through this sinus there issued fluids in sufficient quantity to keep the genitals continually moist. Flatus, also, at times, found its way through this channel.

"The discovery of the real nature, and the extent of this sinus, passing as it did from one to another important cavity, and establishing a communication between them, presented an embarrassing view of the case, as to the mode of cure. It was now clear that the case must be treated with reference to its connection with the rectum, and upon the same principles that govern us in the cure of fistula-in-ano; for, in fact, it was virtually such a case modified by the unfortunate implication of the vagina.

"It was nevertheless apparent that this sinus could not be included in a seton and ulcerated through, nor be laid open, as is usually done in the common fistula-in-ano, without destroying the perineum, and laying these two great cavities into one! thereby causing a more unhappy state of the parts than had previously existed. The duty, therefore, of the surgeon was very clear, either to consign the patient to a continuation of her loathsome complaint, or to adapt an operation to her peculiar case. The latter was successfully done, as follows.

"A fine tent was inserted, for a few days, to dilate the sinus, and to render its course less tortuous. A seton was then introduced, with an eyed probe, into the sinus *per vaginam*, and passed through its whole extent until it had penetrated the rectum, by the orifice into that cavity. It was then brought down and out *per anum*. The two ends were then loosely tied together, merely for security against its slipping out. After a few days the loop was opened, and the end of the seton passing out of the vagina was put through

the eye of a probe, which was previously crooked at the other end. This probe was then inserted into the orifice of the vagina; thence about an inch and a half up the sinus; then its point was directed toward the perineum, just exterior to the sphincter ani muscle. Here a small but somewhat deep incision was made, and the probe pushed through it, bringing along with it the end of the seton which had been doubled upon itself. The seton now, instead of passing out of the vagina, as at first, after coming down from the bowel through only part of the sinus, descended through the new channel I had made for it. The ends lying almost side by side, were now tied together, thus forming a loop, in which were included the parts between the outer surface of the sphincter ani muscle and the rectum. This seton or ligature was subsequently drawn or twisted tighter and tighter from time to time, in order to cause its ulceration through the included parts, as we do in common fistula-in-ano, when operating by the ligature or wire. So soon as by these means, the new and direct channel was formed, and had attained a larger size than that penetrating the vagina, the discharges from the rectum deserted that portion of the route which led into the vagina, and took the course of the seton. This was exactly the end I designed to accomplish by my operation; believing that, if I could establish a freer and more direct passage for the escape of the fluids of the rectum than that *per vaginam*, the sinus opening into this cavity would heal *sua sponte*, and become permanently obliterated. My opinions were confirmed, for long before the seton had made its way out by ulceration, the vaginal portion of the sinus had healed, and the integrity of this organ had been restored. I had now only to pursue the treatment of this case as I should have done, had it been a simple case of fistula-in-ano—namely, by continuing to tighten the ligature every day or two, until it finally came so near away, that a slight clip by the scissors divided the insignificant intervening portion yet retaining it when it was released. These parts healed up in a few days.

"I had now the satisfaction of finding that my treatment of the patient was completely successful. She was entirely cured, and without disfigurement of a recto-vaginal fistula, existing at an interesting period of her life, and under circumstances and embarrassments rarely to be met with in the same case.

"It is now nearly one year since my patient was discharged cured, and recent accounts from her announce her to be in perfect health.

"*Philadelphia*, June, 1840."

The lady was in Philadelphia within a short time past, (August, 1844,) and continues to be perfectly free from her complaint, now full four years since the operation.

Nothing could be more ingenious in the devising, nor successful in the application, than this new triumph of the skill of the surgeon, and it is just that, whatever praise ought to be meted out to those who make great improvements in important affairs, should be duly paid. There is reason to

believe that full justice is not done to Dr. Barton for this operation, in consequence of some mistake of the *Gazette Medicale* of Paris, in the number for Saturday, May 1, 1841. In that number, p. 283, is stated, an Observation de Fistule *recto-perinéale;* (Vaginale) communiquée par M. le Docteur Valentine Mott.

M. Guerin, the editor of the *Gazette*, gives a translation of Dr. Barton's account of his beautiful process, as that of Miss R—, of Virginia, aged twenty-two, &c., but he adds, that shortly after a journey from Philadelphia to New York, she experienced the symptoms of an abscess, &c. &c., after which the case is given in full, as we have just copied it. The unfortunate mistake consists in adding the word New York to the translation. No such word was to be found in Dr. Barton's statement, and they do him the additional injustice of wholly leaving out his name at the head of the article, and indeed no allusion is made to him throughout the entire French publication of his paper, nor the least regard paid to his date, of "Philadelphia, June, 1840," at the foot of his statement. By the appearance of Dr. Mott's name as the communicator, and the introduction of the word New York in the translation, the learned world suppose Dr. Mott to be the operator and inventor of the operation, and he was accordingly complimented for it by the Provincial Medical Journal, the London Medical Gazette, and others, as its author. This was the result of some want of care or precision in the translation of the paper of Dr. Barton, who gave it to Dr. Mott, whilst in Paris, in 1841, that surgeon being desirous to cause its publication in a Paris Journal. Dr. Mott's note to Dr. Guérin, accompanying Dr. Barton's paper, and complimenting him (Dr. B.) for his operation, shows that the mistake was not chargeable to Dr. M., but it is presumable that Dr. Guérin's Journal, having given accidentally the meed to the New York surgeon, our townsman must submit to a temporory *stasis* in some parts of Europe at least, of the reputation which his other great operations have acquired for him, and which would have been as greatly increased as this success deserved that it should be, had it not been for this unfortunate mistake. The readers of M. Colombat's article on recto-vaginal fistula at least will learn the value and the author of the operation.—M.]

## OF FOREIGN BODIES ACCIDENTALLY INTRODUCED INTO THE VAGINA, THE UTERUS AND THE CANAL OF THE URETHRA.

Of all the cavities lined by mucous membrane, the vagina is the one in which we most frequently meet with foreign bodies, which have been introduced either with a therapeutical view, with criminal intentions, or to satisfy a childish curiosity.

Notwithstanding its size and direction, the vulvo-uterine canal readily retains bodies which have passed its orifice, because of the great number of its transverse folds which are found, especially at the inferior portion of its cavity.

The presence of a foreign body in the vagina, gives rise to inflam-

mation more or less violent according to its nature, and at the same time occasions a number of symptoms, such as severe pain, ulceration, ichorous and very fetid discharges, perforations, dysuria, hectic fever, and various other disorders, which we enumerated while treating of pessaries, and which we shall not here recapitulate.—(See p. 249 *et seq.*)

In addition to pessaries forgotten in the vaginal cavity, examples of other bodies are cited, whose detention, even for a short time, have produced very serious disorders.

The celebrated Dupuytren* was called to a woman who, with intentions she cared not to confess, had introduced into her vagina a small Delft pomatum-pot; as the introduction of the little vase, which was of conoidal form, had been made by the base, and as its presence in the vagina had occasioned swelling and tumefaction of the mucous membrane situated below it, it was difficult to ascertain the nature of the foreign body, and its extraction could only be accomplished after it had been broken by means of strong pincers. The same professor also states, in his *Leçons Orales*, that he once had occasion to extract from the vagina a great number of needles which had fallen within that cavity from a large needle-case, that had opened after its introduction. Although the records of science contain other observations of the same kind, we shall rest content with quoting one which is very recent, and which is reported in a thesis by Dr Grénier.†

In the year 1832, an unfortunate idiot female, living in the hospital *de la Vieillesse*, in the women's department, passed into her vagina a needle-case, which opened and allowed the needles that it contained to escape. When M. Grénier saw the patient, she was suffering the most violent pain, her face expressed the greatest anxiety; the skin was burning hot, and she experienced constant desire to urinate, with impossibility of satisfying it. After the needles had been removed, she was placed in a warm bath for some time, an anodyne potion was administered, and the symptoms soon disappeared.

The operative methods to be employed for the extraction of foreign bodies in the vagina, should vary according to their nature and situation. The surgeon should always begin by exploring the vagina, after having placed the patient on a bed, in the position indicated for the application of the speculum. When the nature, form and situation of the foreign body or bodies have been exactly ascertained, the operator must disengage and take them away, either with his fingers, with pincers, a scoop, a blunt hook, and sometimes even with a terebra. The speculum, with movable blades, may, in some cases, be useful to dilate the external orifice of the vagina, and in this way, assist the escape of pricking or irregular bodies, by protecting the tumefied and irritated parts through which they must pass in order to escape. If the foreign body cannot be extracted entire, as often happens in the case of pessaries forgotten in the vagina, it becomes necessary to break or divide it while in that cavity, by means of strong pincers or long cutting forceps.

* Leçons Orales, 1827.

† Dissert. sur les corps étrangers, Paris, 1834.

After these operations, which are often very difficult, and always painful, it is proper to prescribe demulcent and narcotic injections, conjointly with some sedative potion at first, and then with a view to prevent and combat inflammatory symptoms, we must resort to strict diet, to emollient enemata and fomentations, and, finally, to the application of leeches to the hypogastric region, and even to general bleeding, if the violence of the inflammation should require it.

It is very rare for foreign bodies to be introduced into the uterus through its vaginal orifice or its parietes, except during pregnancy, because in the state of vacuity, it is so small, and has so small a cavity, that it is almost impossible for this kind of lesion to take place. M. Crouzit, of Rochechouart, has published a very interesting case of a female who, with criminal intentions, had introduced a seton-needle through her vagina and os tincæ, which escaped, and was lost in the uterine cavity, whence it did not pass out until after the lapse of seventy-nine days, and then through one of the groins. The same practitioner adds that the presence of the needle in the womb, and the perforations which took place during its escape externally, gave rise to serious disorders and to a metro-peritonitis, which brought the patient to the very gates of death.

The accidental introduction of foreign bodies into the canal of the female urethra is extremely rare. Nevertheless, the annals of the science possess some examples of the kind, since hair-pins and other analogous bodies introduced to satisfy a childish curiosity, or during an attack of erotomania, have been removed, either through the urinary meatus, or by means of an incision made into the bladder, for, when caught in this organ, they could not be removed through the canal by which they had been introduced.

To extract foreign bodies and even calculi engaged in the meatus urinarius, the woman should be placed as we have described above; then having prepared the canal of the urethra with some oily injection, we may employ the ring forceps, or, still better, what is called Hunter's forceps. When the operation is terminated, we should prescribe protracted warm bathing, narcotics and antispasmodics internally, and, finally, local capillary blood-letting.

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# FOURTH SECTION.

## CHAPTER VIII.

### VITAL AND ORGANIC LESIONS.

We include amongst the vital and organic lesions all superficial and deep-seated inflammations, degenerations, excrescences, transformations, and, in fine, all morbid productions of the vulva, vagina, uterus, Fallopian tubes, ovaries and mammæ.

## SUPERFICIAL INFLAMMATION OF THE VULVA.

The external parts of generation in the female are liable to different superficial inflammations, which vary in degree, according to the causes which have produced and which maintain them. In female infants at the breast, the contact of the urine and fœcal matters, often gives rise to erythema and painful excoriations of the mucous and cutaneous surfaces of the labia majora, which may, in some cases, if neglected, become the origin of severe, gangrenous, and fatal erysipelas. Such unfortunate results may easily be avoided, by due attention to cleanliness, and we may cure the superficial inflammations of the vulva by the use of baths and emollient fomentations, and by the application of pledgets of linen covered with cerate, or imbibed with oil beaten in pure water or lime water. The powder of lycopodium and of starch, or of worm-eaten wood is likewise useful when the parts are too much relaxed, or are the seat of a sero-mucous discharge.

The neglect of cleanliness may also produce troublesome consequences in girls of more advanced age; for their external genital parts are often the seat of a very acute inflammation, caused by sebaceous white and concrete matters, which have been allowed to collect and become rancid around the clitoris nymphæ and in the folds of the vulva, where they are secreted. From these kinds of irritation, smarting pains, and often intolerable itching, arise, which excite to repeated handling, and even to an irresistible propensity to masturbation. This unfortunate habit also arises from the pruritus aroused by vermicular ascarides which have passed from the rectum into the folds of the vulvo-vaginal mucous membrane. To remove this cause of irritation, it is sufficient to keep the parts clean, and to make use of vermifuge lotions and injections.

The superficial inflammations of the vulva, caused by erotic excesses of *coitûs* or by solitary vice, are usually soon cured by repose of the parts, by demulcent and acidulated drinks, by the application of leeches to the external surface of the labia majora, and especially by the use of emollient and gelatinous baths. Those which are due to an exanthema, as variola, or measles, etc., disappear with the general disease, to which, therefore, we should chiefly direct our attention.

Finally, erysipelas of the vulva, which, like erysipelas of other portions of the body, may be accidental, spontaneous, fixed, irregular or wandering, requires nothing in particular, except to prevent adhesion of the inflamed parts, by the frequent use of emollient injections into the vagina, and the introduction into the canal of a large plug of charpie or a tampon of soft linen, soaked in some mucilaginous decoction.

## OF PRURIGO OF THE VULVA.

This affection, characterized by violent, intolerable itching and excessive smarting of the vulva, may be seated in the labia majora

alone, or may extend to the mucous membrane of the orifice of the vagina, and even to the mons veneris. It has frequently been mistaken for a true herpetic eruption, some of whose characters it presents, just as in some cases the itching, which has been attributed to it, was in fact due to the presence of parasitic animals (pediculi-pubis).

The circumstances under whose influence prurigo of the vulva most frequently occurs, are the change of life, pregnancy, and the approach and derangements of menstruation, especially in women subject to acrid discharges, and who are inattentive to the calls of cleanliness.

The chief symptom of this malady is a pruritus, which augments in proportion as the patient yields to it. The itching is most intense when the patient is in bed, and after eating and exercise, especially in situations where the temperature is high. The disorder usually has intermissions of some hours, and even days. Upon examining the parts, we discover little pimples, scarcely distinguishable and slightly raised into points. When inflamed but slightly, they contain no matter; but when torn by the nails, they secrete a little drop of sanguineous serosity, which by its desiccation forms a brown crust of the size of a millet seed.

When the disease is slight, which is commonly the case, it readily yields to the employment of some of the topical remedies that we shall mention; in the contrary case, especially when the affection is of long standing, the epidermis becomes hard and exfoliates, the patient, tormented without cessation, soon emaciates, and often falls into a state of melancholy and despair.

If the prurigo have commenced during pregnancy, or during the flow of the menstruæ, it is necessary merely to moderate the itching by means of emollient and narcotic lotions; we have employed in these cases, and always with advantage, lotions of warm water, with addition of a tablespoonful of Cologne water to each teacupful of the former fluid. It is proper to remark, however, that the itching does not cease entirely in the first case until after the women are confined, and in the second until after the close of the menstrual evacuation. When the disease coincides with amenorrhœa or with inflammation of the womb, it commonly disappears after the re-establishment of the suppressed flux and the cessation of the phlegmasia, which alone ought to engage the attention of the physician.

In all other cases, we should add to the means just enumerated the use of simple and sulphurous baths; and, should the inflammation be acute, the application of leeches. In his work upon diseases of the skin, Dr. Wilson recommends lotions of twelve grains of corrosive sublimate in eight ounces of lime water, to be frequently renewed; M. Trousseau has, also, prescribed advantageously lotions of a solution of three drachms of subcarbonate of potash to four ounces of distilled water, of which a teaspoonful must be put into a basin containing about two pounds of warm water; the proportion of the solution was gradually augmented, each day, until slight sweating was produced. The same practitioner also prescribes lotions with a mixture of two drachms of corrosive sublimate, dis-

solved in a sufficient quantity of alcohol, and ten ounces of distilled water. This solution he, at first, employed in the proportion of a teaspoonful to a pound of warm water, and successively of three or four tablespoonfuls, to be applied by washing two or three times a day. While these lotions, which were continued some days after the cessation of all the symptoms, were employed, M. Trousseau prescribed the use of diluent drinks and of some laxative, and forbade wine, cordials and acrid stimulant and spiced food.

In cases of idiopathic prurigo, we have employed, with advantage, cold lotions made with a very weak solution of sulphate of zinc, iron or alum; Goulard's lotion, oxycrate, laudanum mixed with water, have also sometimes succeeded in our hands; Dr. Ruan,* (of Philadelphia,) in cases of very obstinate prurigo, has obtained cures by the internal use of balsam of copaiba, of carbonate of soda, and by the external application of bread and milk poultices, with additions of laudanum; finally, by the use of lotions made with a solution of powdered sub-borate of soda, or of carbonate of zinc. If active inflammation should supervene after the employment of these remedies, as we have known to happen, it should be combated by general and local emollient and narcotic baths, or by baths of gelatine or of bran. Finally, in very obstinate cases, slight cauterizations with the nitrate of silver, or even with the actual cautery, have been employed with success, and triumphed over a disease which had resisted all other means. We should never, however, forget that the too sudden suppression of the prurigo may be followed by serious disorders, which it is possible to prevent by means of a large blister applied to one of the arms, or, still better, to one of the thighs.

[I have not any thing special to add to M. Colombat's article, except an account of the successful use of Dr. Ruan's remedy with some modification. The late Prof. Dewees, of this city, so long and so well known as a practitioner at the head of his profession in this country, used to speak of cases of this kind, in which the inner surface of the genital parts was covered with aphthæ, very like the aphthæ faucium; and it was in these cases that he strongly recommended the borate of soda, agreeably to the experience of my venerable fellow-citizen, Dr. John Ruan, also a person of great clinical experience.

I confess that I have not perceived, upon examination, nor have I been informed by the patient, of the aphthous condition of the mucous surface, but I have found it excessively red and dry, and the subject of the most insupportable pruritus,—which has continued to torture the sufferer for months, and until the gestation has concluded, notwithstanding all the efforts that could be directed against it. But I am free to say, having been a great many times consulted for the relief of pruritus vulvæ, and most frequently in pregnant women, I have rarely had occasion to order any thing more than the following formula, viz:

* Revue Médic., tom. i. p. 305, 1829. From the North Amer. Med. and Surg. Journ., 1828.

R.—Sodæ borat. 3ss.
Morphiæ sulphat. gr. vj.
Aq. rosæ destillat. 3viij.
M.—F. to sec. art. misturæ.

I direct the person to apply it thrice a day to the affected parts, by means of a bit of sponge or a piece of linen, taking the precaution first to wash the surfaces with tepid water and soap, and to dry them before applying the lotion. I can confidently recommend the prescription as suitable in most of the cases of this most annoying malady.—M.]

## OF PHLEGMON AND DEEP-SEATED INFLAMMATION OF THE LABIA MAJORA.

Phlegmon of the labia majora is far from being rare; for independently of that developed after contusions occurring during labour or the sexual congress, and shocks of other kinds, there are some which commence without our being able to discover the cause. Females recently married are much more subject to them than those more advanced in years; in some, this kind of phlegmon is reproduced at each appearance of the menstrual discharge; they present nothing peculiar, except that they almost always terminate by suppuration; their treatment consists in the employment of emollient and maturative poultices, low diet, local bleedings, &c.; when suppuration takes place, the abscess must be opened by a longitudinal incision on the internal surface of the labium externum. In the periodical phlegmon, however, a simple incision is not sufficient, because, in cases of this kind, the walls of the abscess are smooth like those of a cyst; they unite with difficulty, and on this account should be irritated by means of injections capable of producing granulations upon their surface. These injections, which it is necessary to use two or three times a day, may be made simply with equal parts of wine and water, or with a mixture of an ounce of rose-water and a drachm of aqua ammoniæ.

Abscesses of the vulva, which, from feelings of shame, have been left without treatment, terminate in tortuous sinuses communicating with the rectum, and thus occasion fistula of the labium externum by giving passage to stercoraceous matter; these should be largely opened with a narrow bistoury.

Dr. Vidal de Cassis* has lately described certain small abscesses, which occur around the vulva during blennorrhagia, and which are very common amongst prostitutes. In the opinion of this practitioner, these abscesses, though but little known, merit serious attention; for they are almost always followed by fistula and sometimes even by very serious nervous symptoms. As this is not the proper place to detail their history, we shall rest content with saying that they appear during the progress and even towards the termination of the blennorrhagia, that they are generally seated in the substance of the labia, of the vulva and especially at the point where the nymphæ

* Traité de Pathologie Chirurgicale, t. i. p. 246, 1838.

terminate in the labia majora. The purulent collection being commonly inconsiderable, these abscesses, though painful, remain, for some time, undetected, and their existence is often declared only because the pus, nearer to the mucous membrane than to the skin, comes at last to bathe the edges of the vulva, after having opened a passage for itself.

[It appears to me that the author ought to have guarded the young and inexperienced practitioner against the danger of making a mistake in the diagnosis of these affections. At least should he have referred him back to page 206, for the diagnosis of vulvar enterocele. Nothing could be more dreadful than to plunge a lancet into the intestine, confined within the labium of a patient, under the mistaken design of discharging a supposed abscess.—M.]

## GANGRENOUS INFLAMMATION OF THE LABIA MAJORA.

The external genital organs of the female, like the vagina, sometimes become the seat of gangrenous sloughs, produced by the violent pressure of the fœtal head during labour. In other cases gangrenous affections of the external genital parts prevail epidemically in hospitals for lying-in-women, and are then one of the symptoms of a typhoid fever, or of a metritis, which is almost always fatal.

The treatment of symptomatic gangrenous affections consists in uniting the utmost cleanliness together with emollient ablutions to the treatment of the principal disease; then in the use of tonic lotions made with honeyed wine of cinchona, or lotions with Labarraque's disinfecting solution.

There is a kind of primitive gangrene, happily very rare, which has been designated by the term, *carbuncle of the genital organs.* The disease, which is extremely dangerous, commences sometimes with phagedænic ulceration, or by œdematous, but more frequently by phlegmonous engorgement. When it begins in the latter form, the pain at first is very acute and the heat intense; the swelling shows itself particularly about the mons veneris; the integuments are of a dusky-red colour, and present a smooth and shining aspect. A progressive diminution of sensibility, and the appearance of a violet spot, depressed in its centre, and becoming more and more deeply-coloured, announce the approaching attack of gangrene, which speedily invades the neighbouring parts and spreads to an extent that varies with the duration of the disease: the prognosis of this affection is always very grave; for it almost always terminates fatally. The treatment consists of local depletion, topical applications of refrigerant detergents, and emollient applications according to circumstances; if the disease begin with œdematous engorgement, blisters and the actual cautery might stay its progress. It would be proper, also, to resort to vinous, alcoholic, camphorated and chlorinated lotions, or those made with decoction of cinchona; internally, the mineral acids, anti-scorbutics and the preparations of

cinchona should likewise be employed, especially if the march of the disease should seem sensibly arrested by the remedies first put in practice.

## ACUTE INFLAMMATION OF THE VAGINA.

Although acute inflammation of the vagina generally coincides with that of the womb, which is soon to occupy us, it may, nevertheless, exist separately, or at least extend only to the mucous membrane of the vulva, which at the same time becomes the seat of a more or less abundant exudation.

Acute vaginitis may be produced by erotic excesses, resulting from repeated coitus, or from solitary vice; by irritating injections; by the detention of hard and voluminous foreign bodies in the vagina; by violation, especially if committed upon a person of tender age; by obstetrical operations; by venereal infection; and, finally, by any agent capable of producing an irritating action in the vulvo-vaginal mucous membrane.

Whatever be the cause of this affection, it begins with slight pruritus and sensation of weight in the genital parts; the patient feels a kind of constriction at the vagina, or dragging in the groins, with vague pains in the hypogastric region, in the hips and loins; the pruritus, at first slight, soon changes into a painful and burning sensation, especially during the discharge of urine. Tumefaction occurs along the whole length of the vagina, which is sometimes so considerable as to make it difficult to introduce the finger. On the third or fourth day, a limpid and not very abundant mucous discharge is established. The desire to urinate becomes more frequent, and the pain which accompanies it more acute: little by little the discharge increases and varies in colour, white, yellow or greenish, and sometimes the local inflammation becomes so intense that even fever arises, and the vaginal secretions excoriate the greater and lesser labia. When the inflammation has extended as far as the os tincæ, the patient feels a sensation as of a large tumour causing weight at the bottom of the vagina, especially when she tries to walk. In performing the Touch, which is generally very painful, we find the neck of the uterus swollen, sensitive and burning; if we resort to exploration by means of the speculum, the circumference of the mouth of the womb is seen to be red, tumefied and often excoriated.

Ordinarily the symptoms begin to decrease towards the tenth or twelfth day, the discharge gradually loses its colour, and, finally, the inflammation terminates by resolution and soon disappears, unless it pass into the chronic form. It happens, nevertheless, that in some cases acute vaginitis terminates in suppuration, giving rise to indolent abscesses which might be mistaken for vaginal enterocele, and this the more probably because the tumours which result from them are soft and insensible, and the pus they contain disappears under the pressure of the fingers, as the loop of intestine does when we effect its reduction. When the vaginal inflammation is the result of a mechanical lesion, it frequently terminates in gangrene, which,

after the fall of the sloughs, occasions a loss of substance, producing recto and vesico-vaginal fistula.

The treatment of acute vaginitis, not dependent upon syphilis, consists in the use of baths, of emollient and narcotic lotions and injections, and of general or local depletion, according to the violence of the symptoms; to these should be added diluent drinks, sedative and demulcent enemata, rest, strict diet, or at least mild and light food, and the treatment is concluded with astringent lotions and injections. Should the disease terminate by suppuration, it is necessary to open the abscess as soon as it is detected; and in case gangrenous sloughs form, we must resort to tonic and chlorinated lotions.

Although we do not intend in this work to treat of diseases belonging properly to general pathology, such for example as the venereal disease, we shall, nevertheless, make some remarks upon contagious vaginitis or blennorrhagia of the female.

The contagious character is not inherent in that form of vaginitis only which results from an impure coitus; for, it has long since been proved, that when once established under the influence of any cause whatsoever, it may, during the venereal act, communicate an urethral blennorrhagia to a male.

This contagious property of vaginitis is not a constant one; it may be developed under some circumstances, and cease to be manifested under others. It has been known, after having been for a long time innocent, to become contagious after the woman has committed excesses in eating, after frequently-repeated sexual intercourse, or even after violent exercise. What is most worthy of remark is, that the affection contracted from a female labouring under vaginitis is not invariably a blennorrhagia, but consists often of ulcerations or of vegetations, etc. It is proper to say, however, that the power of giving rise to these different symptoms is not common to all forms of vaginitis, but that it seems to belong especially to that which is of syphilitic origin.

It is much to be desired that some external signs could be discovered by which we might, from the very first, distinguish whether a case of vaginitis is or is not contagious; unfortunately, the symptoms just described have nothing decisive in them, and are often, indeed, quite uncertain.* Although, in general, we may affirm a vaginal discharge to be contagious when the redness is acute, the pain intense, and the swelling considerable; when the urethra, conjointly with the vagina is very much inflamed; in a word, when the inflammation is violent; we cannot assert that blennorrhagia may not be communicated by contagion even when it is slight in appearance, and fails to present the symptoms we have enumerated.

We shall conclude with the statement, that when fully convinced that vaginitis is the result of syphilitic infection, we should combine with the antiphlogistic treatment the use of mercurials and

* The chemical and microscopic researches of Dr. Donné have, in great measure, enlightened this difficult point of diagnosis. We do not mention them here, because we shall describe them in treating of the characters which distinguish syphilitic vaginitis and leucorrhœa properly so called.

various other means we shall mention in speaking of chronic catarrh of the vagina and uterus. Lastly, if the disease be connected with a scrofulous, herpetic, rheumatic or verminous disorder, etc., the treatment ought in the same way to be directed to the principal disease, without however omitting the local remedies, especially resolvent, astringent, tonic, opiate, mercurial and balsamic injections, etc. We might also resort to cauterization with the solid nitrate of silver, which our fellow-practitioner and friend, M. Ricord, has employed with the greatest success in the treatment of acute and chronic vaginitis, and which we have likewise employed for six years past, in order to modify and cure several different affections of the vocal organs. When speaking of the treatment of leucorrhœa or vagino-uterine catarrh, we shall describe the method followed by M. Ricord, who calls the nitrate of silver the antiphlogistic caustic.

[In the treatment of vaginitis, it would be proper to keep always in view the liability of the canal to become greatly injured by stricture of greater or less breadth, and even by the occurrence of the adhesive inflammation, ending in complete cohesion of large portions of the opposing surfaces of the tube. I beg leave to refer the reader to page 101, for the history I have therein related of such a case, with the mode adopted in effecting the cure. The misfortune is, that the modesty of the patient causes her almost invariably to conceal from the medical attendant, any secret distress, or any disorder that might expose her sensibility to some shock by its disclosure, and hence he is apt not to discover the existence of disease until it has had time to produce its permanent evil effects.

Knowing this disposition of the female, he should feel bound to make such occasional inquiries as might keep him fully informed of any threatened danger to the object of his care. Complaints being made to him, and neglected, or put off by some slight direction or prescription, become serious charges against his conscience, should they be followed by evil consequences that might, by proper attention, have been obviated.—M.]

## INFLAMMATION OF THE PARENCHYMA AND LINING MEMBRANE OF THE UTERUS.

Notwithstanding the great improvements in pathological anatomy, we still remain imperfectly acquainted with the alteration of the parenchyma produced by acute inflammation of the womb: it is easy to understand why there still remains some deficiency in the history of this disease, when we reflect that opportunities for observing it, and especially for making the autopsy of persons who perish from it, seldom occur.

The authors who, from Hippocrates down to the middle of the last century, have treated of acute metritis, do not always agree upon its true seat, and have generally published only imperfect cases. Some have confounded the disease with uterine catarrh, others with puerperal peritonitis, and it is only since the labours of Cigna, per-

petual secretary of the Academy of Sciences of Turin* have been made known, that physicians universally understand by acute metritis, inflammation of the proper tissue of the uterus.

Where the inflammation is superficial, that is to say, where it is seated chiefly in the lining membrane of the organ, it constitutes the *catarrhal metritis* which received, in 1822, from Doctor Blatin,† the name of uterine catarrh, which is now generally adopted. But, as these two kinds of inflammation rarely exist separately, and as their causes, symptoms and treatment offer but slight and unimportant differences, we shall describe them under the common denomination of metritis, while recording the symptoms that serve to distinguish whether the inflammation predominates in the mucous membrane of the womb, in the parenchyma of the organ, or whether it occupies either of these parts exclusively.

This affection is very rare before the age of puberty, because, up to that epoch, the womb remains in a kind of atrophy and inactivity, which render it passive as it were, in the midst of the living economy. Nevertheless, acute metritis is sometimes observed in little girls of early age. Doctor Dance,‡ amongst others, has published a case which seems to have been the sequela of a chronic peritonitis.

Acute inflammation of the uterus is also rare in women who have passed the critical age; it particularly attacks marriageable girls during menstruation, persons who indulge to excess in the pleasures of venery, in masturbation, and still more those in the lying-in state, or who have been recently delivered. Sometimes it has been observed to come on during pregnancy, and cause abortion; it may extend to the whole uterus, or occupy the body and fundus of the organ alone.

The causes that may give rise to acute metritis are very numerous; some of them are common to all the phlegmasiæ, while others having a more direct action upon the uterus are divided into predisposing and efficient causes. Amongst the former are youth, an erotic and sanguine temperament, acute sensibility and a first labour.

Amongst the efficient causes of this disease, should be classed premature suppression of the menstruæ; too frequently repeated coïtus, and absolute and relative disproportion of the organs; solitary enjoyment; celibacy; widowhood and unsatisfied desires; irritating injections; suppression of hemorrhoidal discharges; leucorrhœa; the use of violent emmenagogues employed in forcing the menses or in provoking abortion; sudden cooling of the extremities; cold bathing of the vulva and vagina; cold baths and iced drinks, especially during menstruation; fatiguing walks; violent exercise on horseback or in carriages, without springs; dancing; loss of sleep; wounds; falls and blows on the hypogastric region; the application of a pessary; heating and stimulating food; highly-seasoned meats; spirituous drinks; wine; coffee; tonic, stimulating and aromatic remedies administered at improper times; moral disturbances, which may suspend the flow of the menstruæ and of the lochia, etc.

* Uteri inflammatio, etc., dissert., Turin, 1756.
† Du catarrhe utérin ou des flueurs blanches. Paris, an. x.
‡ Archives gener. de Médecine, Octobre, 1829.

The causes that act particularly during pregnancy, are premature labour, immoderate coïtus, and the introduction of a foreign body into the womb with the intention of producing abortion, and falls or blows on the thighs or abdominal region.

Metritis may also be caused during labour by its long duration, by manipulations with the hands, and especially with the forceps, for the purpose of effecting the version of the child or the detachment of the placenta; by lacerations of the uterus; by too often repeated examinations and too frequent frictions on the abdomen to excite the uterine contractions. The same disease may be determined immediately after delivery by the retention of the placenta, or some of its connections, or even by a coagulum; by the injection of an astringent liquid, or of iced water into the vagina and uterus, with the view of arresting hæmorrhage; by the employment of stimulating drinks, and especially of roasts cooked with wine, cinnamon and nutmeg, which the nurses have the habit of giving to women recently delivered, in order to re-establish their strength; finally, metritis may be occasioned by sudden suppression of the lochia or milk, produced by rapid cooling of the body or by a vivid emotion, as fright, joy, anger, bad news, etc. The venereal virus, and especially cohabitation with a person affected with gonorrhœa, are likewise causes which, in all possible conditions of society, may sometimes occasion the development of acute inflammation of the uterus.

The *symptoms* of the disease, which may be either idiopathic, symptomatic or metastatic, and which is often determined by continuity of inflamed organs, are divided into local and general, which vary according as the inflammation occupies the internal membrane, the neck, the fundus, the whole or a part of the body of the organ.

It is probable that the inflammation is seated chiefly in the mucous membrane of the cervix, when the secretion of mucus is found to be abundant, and the pain slight; especially if pressure does not increase it; and finally, where the cause under whose influence it has arisen, has acted principally upon the lining membrane of the gestative organ. We may be almost certain, on the contrary, that the inflammation occupies particularly the substance of the uterus, when there is no discharge; when the pain is very acute and pulsative, the swelling very marked, and, in fine, where the pain has manifested itself after a blow, a puncture, or a fall upon the hypogastric region.

When the inflammation occupies only the fundus of the organ, the pain is seated towards the hypogastric region and extends, to the umbilicus; if the metritis be puerperal, the pain is increased by pressure, and the tumour is very sensitive especially at its upper part. If the anterior paries be affected, the painful point is at the pubic region, and the emission of urine is difficult and sometimes impossible; if the posterior wall be diseased, the expulsion of the fæcal matter is extremely painful, and the distress in the loins and back intolerable; the female feels a sensation of weight which obliges her continually to make expulsive efforts, like those of labour or of defecation.

When the inflammation chiefly occupies the lateral portions of the

gestative organ, the ligaments participate in the inflammatory state, the groins and thighs are painful, the legs and feet are benumbed, the woman lies upon her back with the inferior extremities drawn up, for any other position is insupportable.

In cases where the neck of the uterus alone is affected, the patient feels an acute pain at the bottom of the vagina; if the phlegmasia has succeeded to a laborious labour, there occurs from the vulva a discharge of blood and of sanguineous mucus which is prolonged beyond the usual period, and in performing the Touch, we find the os tincæ hard, swollen and always more or less torn. When on the other hand it has followed the first sexual connection, the neck only is swollen, burning, very sensitive, and seems almost always to be nearer to the vulva. In general, all these partial inflammations terminate happily.

It is not so where an acute inflammation occupies the whole of the womb; the symptoms which then arise are always extremely serious, because, in the greater portion of the cases, the evil extends not only to the uterine serous membrane, but also to the rest of the peritoneum.

Metritis generally declares itself immediately or shortly after delivery; it begins with rigors of longer or shorter duration, great languor, general anxiety, and a dull, gravative and sometimes very acute pain, which, commencing in the hypogastrium, extends rapidly over the whole abdomen.

This pain is continuous; it is much increased even by slight pressure upon the lower part of the abdomen, as well as by the movements of the diaphragm which take place during coughing, the act of spitting, deep inspiration, and singultus, etc. The patient complains of a sense of weight about the rectum; she cannot visit the close stool; the emission of urine is difficult, painful, and often impossible; the hypogastrium enlarges, becomes more and more sensitive, and the hand applied upon that region finds the body of the uterus harder and more distended than in the normal condition. By the *Touch*, we ascertain that the neck of the uterus is soft, swollen, extremely painful and always warmer than the vagina, which, as well as the labia externa, is often tumefied and inflamed. If the metritis have occurred immediately after parturition, the breasts decrease, milk is not secreted, the lochial discharge is arrested, and the same takes place in regard to the menstruæ, when the disease coincides with the period of that evacuation. Sometimes there is a more or less abundant discharge of sanious and reddish fluid, and in certain cases the patients discharge both fluid blood and clots. These various discharges, which are, at times, intermittent, are preceded by acute pain, caused by the efforts of the womb to expel the materials collected in the cavity.

As the viscus has very intimate sympathies with all the other organs of the economy, it reacts when acutely inflamed upon, those organs, and to a greater or less extent disturbs their functions. Indeed, certain general symptoms, which vary according to the intensity of the inflammation, are added to the local symptoms which we have above described.

In most cases, acute metritis is preceded by rigor, accompanied with uneasiness and anxiety, to which succeed general heat of the

skin, fugitive pains, and a sense of weight about the uterus. It often happens that the disease makes its appearance suddenly, and then we observe the local symptoms which are peculiar to it immediately after the attack. When the disease becomes completely established, the general and local symptoms accompanying it are great change in the expression of the features, constant restlessness, extreme feebleness, frequency of the pulse, heat, dryness of the tongue, and intense cephalalgia; the face, which bears the impress of suffering, is pale and pinched; the eyes are sunken and surrounded by a bluish ring; the tongue is cracked and dry, white or yellowish in the middle, and red at the point and edges; the thirst is great, and the anexoria intense; the patient constantly complains of constriction in the throat; she has incessant nausea, often amounting to vomiting; sometimes a fetid diarrhœa or obstinate constipation comes on; the discharge of urine is difficult and painful; it is red, loaded and irritating; the respiration is suspirious and laboured, partial viscid sweat covers the forehead; the sight becomes dim; the breasts, which are also painful, become flaccid and shriveled; but this phenomenon, which is not constant, is very apt to be wanting when a discharge from the vagina has been established. Generally speaking, the patient, who is in a state of continued wakefulness and wandering, can lie only on the back, with the legs flexed on the thighs, and the latter on the pelvis. In fine, when to these symptoms are added tympanitis, singultus, delirium, smallness of the pulse, picking at the bed-clothes, subsultus tendinum, coldness of the extremities, excessive prostration, and especially a discharge of blackish, extremely fetid matter from the vagina, death is not far from the victim. This affection, which rarely destroys the patient before the end of the first week, but which is sometimes prolonged for a fortnight or a whole month, may, in certain cases, reach such a degree of intensity, that the disorder it then determines in the genital functions leads to a fatal result as early as the third and even the second day. We should observe, however, that a termination so rapid and fatal does not usually occur except where the disease has come on after parturition, because, in this case, the inflammation extends to the peritoneum. Moreover, the pus that is formed on the lining membrane, in the parenchyma, and especially in the sinuses of the womb, is often absorbed by the veins of the organ, and thus mingled with the blood of the general circulation, goes to expend its deleterious activity on the whole economy. It is this purulent absorption particularly that so often renders puerperal peritonitis fatal.

It often happens, where the inflammation has extended to the peritoneal coat, or into the substance of the ligaments of the womb, that suppuration takes place and abscesses are formed that open either into the cavity of the peritoneum, into the rectum, the bladder, or the vagina. Sometimes, also, the pus forms a passage to the exterior surface; for example, through the umbilical region,* at the groin,†

* Smellie, Midwifery, vol. iii. p. 444. Lamotte, Traité d'Accouch., observ. 420. Pinel ,Nosograph. philos., t. ii. p. 286. Van Swieten, comment. on the aphor. of Boerhaave, t. iv.

† Lamotte, Traité d'Accouch. (loco citat.)

in the loins, or on the thigh,* and, in effecting its escape, follows sometimes a direct route, and at others burrows through the cellular tissue, in a tortuous course. It is proper to remark, however, that, as these cases have been observed only in women who survived, some doubt may perhaps exist as to the point of departure and the course of the suppuration. Moreover, as the dense and compact structure of the womb yields but slightly to the formation of pus, it is probable that the greater part of the purulent collections which appear externally, after metritis, are developed in the peritoneal tissue, or in the neighbouring inflamed organs, and not in the uterine parenchyma.

Generally speaking, the formation of pus is to be apprehended, when the symptoms of metritis last, with undiminished violence, beyond the second week; and we may be assured of its occurrence where the pain augments and becomes pungent or pulsating at the same time that fever comes on with transient rigors and horripilation. Henceforward, too, the uterine and alvine evacuations are suppressed; night sweats, which afford no relief, come on; the patient is attacked with extreme restlessness, with more violent headache; and it is the diminution of these symptoms which indicates that suppuration is completed.

When acute metritis terminates by induration, the pain and fever diminish gradually, but the womb loses nothing of its size, density or weight.

The termination of metritis in gangrene, observed by several celebrated physicians, as by Morgagni, Lieutaud and Smellie, is preceded from the third to the seventh day, by vomiting, hiccough, comatose delirium, and constantly increasing meteorism; the alvine evacuations become involuntary, black, frequent, and of a cadaverous odour. A discharge of fetid matters takes place from the vagina; the pain and heat cease completely; the pulse is frequent, very small, and intermittent; finally, convulsions, syncope, and coldness of the extremities close the mournful scene.

In cases of very acute metritis, speedily terminated by death, we find portions of the uterus softened and converted into a kind of liquid and sanious putrescence, which seems to have macerated the parenchyma of the organ. At other times the viscus is more or less gangrenous, and its cavity contains viscid and blackish matters, which exhale a putrid odour. We should, however, observe, that the two last symptoms do not always announce gangrene of the womb, especially when the metritis has occurred soon after labour. Indeed, the black colour and gangrenous odour of the substances found within the uterus after death, or which flow from the vagina during life, are often due to the putrefaction of the placenta, or of large clots of blood, which have been retained in the cavity of the womb. Where the disease has not been so rapidly fatal, the mucous membrane of the womb is generally very much thickened and of a deep red colour; the tissue of the organ is softened and engorged; its cavity contains a bloody, mixed with a sero-mucous fluid, which gives it a sanious appearance, and which escapes, by pressure, from the uterine paren-

* Mauriceau, Traite des Maladies des Femmes, t. ii. observ. 254, p. 211.

chyma, as from a sponge. These changes frequently do not extend over the whole of the viscus; sometimes they are seated only in the neck, and at other times in the fundus and on the interior and posterior paries. The tissue of the healthy portions, ordinarily pale, always appears thinner and denser than that of the inflamed portions. Finally, it happens not unfrequently that the Fallopian tubes, the ovaries and the parts in the neighbourhood of the womb, participate in the disorders of which it is the point of departure and the principal seat.

Where metritis terminates in resolution, which is most apt to occur where the inflammation is of small extent and where the disease is unconnected with delivery, the symptoms gradually become less acute, the uterus becomes disengorged, and its disengorgement is assisted and made evident by a sanguine or sero-mucous discharge from the vagina. It is then of the utmost importance to watch the patient, and continue for some time, and according to circumstances, therapeutic and hygienic measures, to prevent, as far as possible, the uterine inflammation from passing into the chronic state. Frequently women, relieved of the greater part of their sufferings, and supposing themselves out of danger, abandon their disease to the efforts of nature alone, and, in their foolish security, often partaken by their physician, soon pass from a cure almost complete, to a permanent pathological condition, constituting the chronic metritis, of which we shall soon have to speak.

The fortunate termination of puerperal metritis is also preceded by a diminution of the symptoms, but particularly by the re-appearance of the lochia, the swelling of the mammæ, and the establishment of the milk secretion. When metritis attacks during pregnancy, it almost inevitably brings on premature labour, the death of the fœtus, and very often that of the mother also.

The diagnosis of acute inflammation of the uterus is often rather obscure, because the disorder presents symptoms having some analogy to those of peritonitis, hysteria, uterine catarrh and acute cystitis. When the inflammation is confined to the neck of the womb, the symptoms, usually mild, might be regarded as the unavoidable consequences of a laborious labour, or as the effects of a slight irritation established upon the os tincæ. If, on the contrary, the disease extends to the body of the womb, the peritonitis, which very frequently accompanies it, alone attracts the attention of the physician, and thus prevents him from attending to the metritis, whose existence he cannot suspect. When the inflammation occupies the uterus and peritoneum at the same time, the symptoms of metritis always exist. Though they may be veiled by those of the peritonitis, it will, nevertheless, be possible, with a little care, to discern them. In fact, the sensibility of the neck to the touch, its softness, its enlargement, the pain produced by the slightest movement communicated to the body of the uterus, and the spasm propagated towards the rectum and bladder, are so many phenomena which are absent in peritonitis, and which reveal the existence of an acute phlegmasia of the gestative organ. Moreover, in peritonitis, the pain, which is more

general and more lacerating, often occupies the whole abdomen, and the slightest touch exasperates it to such a degree, that not only is the patient unable to move in bed, but it is sometimes impossible for her to bear the contact of the lightest poultices, or even that of the bed-clothes or of a single sheet. In metritis, the tension of the abdomen is less general, and the pain, which seems circumscribed and seated only at the point corresponding to the uterus, is never accompanied by expulsive efforts, which are proper to acute inflammation of the uterine parenchyma.

Acute metritis may be easily distinguished from hysteria, by recollecting that in this last disease pressure upon the abdomen does not cause pain, that the abdomen, far from being tumid, is often retracted, and that the pulse is corded, but not frequent; finally, that the patient, whose pains are irregular and whose tongue is in a natural condition, always feels a sensation of strangulation and suffocation, produced by the globus hystericus which seems to arise in the hypogastric region, and traverse the abdomen and thorax to be arrested in the throat. In addition to the symptoms we have just enumerated, we should not forget that hysteria is a nervous and apyretic affection, manifested by attacks of general convulsion, with suspension, more or less complete, of the intellectual faculties; moreover, the Touch, which affords us the least equivocal signs for recognizing metritis, teaches us also that in hysteria the womb is generally in a healthy state.

In uterine catarrh, the internal membrane of the uterus is alone affected; the inflammatory phenomena and the fever are moderate, the pain less severe, the sensibility of the uterus less exalted, and the discharge which takes place by the vulva, and which determines a sensation of tingling in urinating, is not sanious and reddish, like that which occurs during acute metritis; moreover, the facts ascertained in regard to the invasion of the disease and the causes which produce it, are always sufficient to establish the diagnosis.

Acute inflammation of the uterus may easily be distinguished from that of the bladder, if we reflect that in the latter disease, the desire to urinate is much more frequent and more painful than in metritis, and that it is necessary to make violent efforts in order to pass a few drops of urine. Most commonly, this fluid is thick, and mixed with mucus, which is deposited at the bottom of the vessel in the form of a tenacious, gluey and grayish substance. Cystitis is sometimes accompanied by other more serious symptoms; the bladder distended with urine, projects above the pubis; the whole abdomen increases in size and becomes very sensitive; the body exhales a distinct urinous odour; finally, there is at the same time a sort of vesical tenesmus with painful pruritus in the urinary meatus and constant factitious desire to go to stool. Therefore, as these symptoms are absent in acute metritis, it becomes impossible to confound the disease with inflammation of the bladder.

The *prognosis* of acute metritis, which is generally very grave, depends upon the extent and degree of intensity of the inflammation, its co-existence with peritonitis, or with any other complication,

on the more or less advanced period of the disease, or the effects of the first therapeutical means employed; finally, on the age, and the constitution, as well as the hygienic condition of the patient; upon her docility in following the advice of the physician; the season, the prevailing temperature, the epidemic influences and the circumstances under which the invasion of the disease has taken place. Other things being equal, acute inflammation of the womb is most dangerous during gestation, especially when developed under the influence of certain epidemic constitutions. It is a disease to be dreaded, not only because it often produces death, but likewise because, in cases where women attacked with it fail to perish, it becomes the germ of other diseases, and especially of chronic metritis, which, in its turn, may produce ulceration, degeneration and cancer of the uterus.

## TREATMENT OF ACUTE METRITIS.

The treatment of acute metritis demands certain hygienic precautions, which cannot but augment the efficaciousness of the therapeutical agents that we are about to treat of.

The woman should be kept in the most absolute repose. Her chamber, which ought to be darkened and free from all kinds of emanations, should be kept at a moderate temperature, and isolated, as much as possible, from whatever might disturb the moral and physical quietude. The air should be frequently renewed, with the precaution that no current be directed upon the patient. Mattrasses of wool and feather-beds ought to give place to hair-mattrasses, and if the weight of the coverings be inconvenient or painful, we may prevent their contact with the abdominal parietes, by means of hoops. To diminish the pain by keeping the abdominal muscles as much relaxed as possible, the patient should lie upon her back, the head raised and flexed by means of pillows, the legs separated and the thighs flexed with the aid of cushions. Finally, we should remove all the causes capable of producing a vivid moral or physical impression upon the patient, and especially we should remove all persons that might vex or injure her by reporting bad news.

Acute metritis, like all other inflammations, must be combated by the most vigorous antiphlogistics; in general it is necessary, from the beginning, to have recourse to general and local bleedings notwithstanding the smallness of the pulse, for, in proportion as the blood flows, the pulsations rise and become more developed. Though all the ancient and modern authors agree upon the necessity of sanguine evacuations, they are not of the same opinion as to the choice of bleeding from the arm or from the foot. Amongst the ancients, Galen, Oribasius, Ætius, etc., and amongst the moderns, Mauriceau, Dionis, and Astruc, as well as almost all the practitioners of our own day, give the preference to bleeding from the arm, while Mercurialis, Hoffman and some others, advise bleeding from the foot, which is also recommended by Pasta, always preceded, however, by

that from the arm. If the disease have not been caused by suppression of the menstrual flow, bleeding from the arm is alone indicated; in the contrary case, we might advantageously open the veins of the inferior extremities, and then resort to applications of leeches to the vulva, and to the superior and internal surfaces of the thighs: as a general rule, bleeding in the brachial veins should be preferred, either because it is of easier performance, because we can take more blood in less time, and from its being more certain, or else because we can better appreciate the quantity of blood obtained, and from its being less incommodious to the patient, whom it is unnecessary to uncover and whom we are not forced to move, which always increases her sufferings.

After general bleeding, which we should not fear to repeat, though the pulse is often small and frequent, it is proper to resort to capillary and local bleeding, by means of leeches applied to the vulva, to the inguinal and hypogastric regions, to the anus, and even over the whole abdomen, if the metritis were complicated with peritonitis, which often happens. Scarified cups upon the mammæ, the loins, or the hypogastrium and to the thighs, are likewise indicated.

At the same time the hypogastrium should be covered with emollient applications, and particularly with fomentations made with flannel dipped in a decoction of flax-seed and poppy-heads. Demulcent and narcotic injections into the vagina should also be prescribed, as well as small enemata of the same nature, absolute repose, rigorous diet, gummy and cooling drinks, and in due time veal broth, whey, almond emulsion, and sometimes slightly laxative or diuretic tisans. The pulp of tamarinds, and dog-grass with nitre, fulfil very well the two last indications. If the pain be extremely severe, we should order a sedative potion, and insist upon injections of the same nature; flying sinapisms and blisters placed upon different points of the surface of the body, are, after the use of depletion, usually advantageous, because they recall the blood and vital forces from the centre to the extremities. The drawing of the breasts, in recently delivered women, or the application of cups to these organs, irritate and excite in a very efficacious manner the derivative movement which we are seeking to provoke. Although it seems as though we might obtain good results also from general baths, we think that they ought to be rejected in the greater number of cases, because, independently of the frighful suffering which the patient undergoes in the removal to the bath, there often arise dangerous consequences from the action of the air on the skin, or perhaps from the difficult adjustment of a suitable temperature. As a substitute for the bath, and to avoid perspiration, Chaussier recommended the introduction of the vapour of water into the bed, by means of a tin tube. The coverings should first be raised up by means of a hoop. If, after the active and well-directed application of all these means, the womb still remains tumefied and engorged, although the general phenomena and acute local symptoms have in part disappeared, we can assist and almost always obtain a resolution of the disease, by means of frictions with tartar-emetic ointment first to

the internal part of the thighs, then to the sides of the trunk, and finally upon the abdominal parietes. This method, which was recommended and employed with much success by M. Duparcque, has been used by us for a long time, not only in the same circumstances as by the excellent practitioner of whom we have just spoken, but also in the treatment of different affections of the vocal organs.*

The diseases which sometimes complicate acute metritis, ought to lead to great modifications in the treatment. Thus, in the case of complication of a bilious or gastric kind, we should be more careful in our employment of bleeding, and it will be useful to administer emetics of ipecacuanha, followed by some mild laxative, especially when the disease is attended with obstinate constipation. If typhoid and adynamic symptoms occur in the course of the metritis, it would be necessary, after having used with circumspection, and to a moderate extent, some sanguine evacuation, to resort to the use of topical remedies, and then to derivatives, especially blisters; finally, in case nervous and ataxic symptoms make their appearance, we should prescribe antispasmodics and narcotics.

When metritis terminates by suppuration, it is necessary to open in good time the abscesses accessible to light and touch, in order to avoid the purulent collections which might form in the abdomen; if the pus had opened into the uterine cavity, the vagina, the rectum or the bladder, we should throw injections into these cavities, at first emollient, and then gently detergent. In case the metritis should terminate by gangrene, it would be necessary to suspend the antiphlogistics, and have recourse to antiseptics and tonics, which should be simultaneously administered in drink, in fomentations, in injections and in enemata.

[I regret that M. Colombat should have separated the discussions on the subject of acute metritis, from those that will be found in a subsequent one on puerperal fever, since it is desirable, in order to enjoy a good coup-d'œil of the whole subject, to have them as nearly approximated as possible, thus preserving a sort of natural order in the arrangement of these so frequently coincident, if not identical affections. As I propose to make some remarks on the subject of puerperal fever, when that topic shall have been reached in the course of this publication, I shall, for the sake of avoiding iterations, postpone any remarks that I may have for that occasion, and I accordingly refer the reader to that portion of this work, merely stating that the valuable labours of Robert Lee, of London, in his treatise on the subject, may be found in a volume published in 1842, here, in Bell's Library, where it is accompanied by the previous tracts of Gordon, Hey of Leeds, and John Armstrong, on the same topic.

There is an affection of women, of no small importance, and not unfrequently met with in practice, which has wholly escaped the attention of M. Colombat. The disease to which I allude is rheumatism of the womb,

* Our opinions upon this point were expressed in our treatise upon the diseases of the organs of voice, published some years since.

concerning which not much has been as yet published. Neither Moreau nor Chailly, among the latest of the French system writers on Midwifery, having said any thing about it, except a very meagre allusion to the disorder by Chailly, at p. 717. The elegant and valuable treatise on Midwifery, by M. Cazeaux, which came out in 1840, has a tolerably full account of it, in Chap. 6th, at p. 646, of the *Traité Theorisque et Pratique de l'Art des Accouchements*, 8vo. Paris, 1840, p. 836, with plates. As Mons. Cazeaux's article is a very sensible and discreet one, and presents a description of the malady in accordance with my own experience at the bed-side, I shall think that the value of this publication will be enhanced by transferring to these pages, the whole of his article on rheumatism of the womb.

"Rheumatism of the womb," says M. C., "after having long attracted the attention of the German practitioners, was but little known in France, when M. Dezeimeris, in his journal, (*l'Experience*,) made public a series of facts already known and published by certain German authors. About the same time, M. Stolz, who had become acquainted with the labours of our neighbours on this subject, studied the affection at the Clinical Hospital at Strasburg, and communicated the results of his researches to his pupils. One of these gentlemen, Dr. Salathé, has very recently defended a thesis on this topic. To his work, and to the bibliographical researches of M. Dezeimeris I am indebted for what I am about to say upon this disorder, which is hitherto unknown to our French nosologists.

"According to Radamel, rheumatism may attack the non-gravid womb; but our business here is to study it only as occurring in pregnant women. It may attack at any stage of gestation, and we shall, therefore, after some general considerations on the subject, point out the influence it may exert in pregnancy, in labour, and in the lying-in.

"*Causes.*—All such circumstances as are favourable to the development of rheumatic affections, may likewise lead to an attack of rheumatism of the womb. Thus exposure, whether momentary or prolonged, to dampness and cold, insufficient clothing, sudden transposition from an elevated to a very low temperature, and all other causes, constitutional and atmospheric, regarded by medical authors as occasional or predisposing causes of rheumatism, may also produce that of the uterus. But, besides these general causes, there is one peculiar to the malady under consideration. I allude to the facility with which this organ, under the thinned integuments of the abdomen, feels the impression of cold in the latter months of pregnancy; the abdomen being guarded, when it encloses the uterus by extremely light garments, which are closely in contact with it, and the antero-sacral region being often badly protected by jackets of insufficient length.

"*Symptoms.*—Rheumatism of the womb often attacks persons constitutionally predisposed to nephritis. It may coexist with a general affection of the same nature; but, in a majority of cases, the uterus alone, and the adjacent structures, are the seats of the disorder. It has, besides, been fre-

quently found to be a consequence of the sudden cessation of rheumatic pain, originally situated in some other part, and suddenly transposed to the womb. Whatever may be the mode of its onset, the disorder is easily recognized by very decided characteristic features. Its principal symptom is pain, where not the least violence has been offered to the organ, the womb becomes the seat of a general or partial pain, the intensity of which varies from the very slightest sense of weight up to the most insupportable agony. It may affect the uterus wholly, or only attack some particular part of it, as the orifice, the fundus, or the cervix. Where the rheumatism is fixed in the fundus only, the pain is felt in the region above the umbilicus. It is increased by pressure, by the contraction of the abdominal muscles, and sometimes by the mere weight of the clothes; the patient, often, is unable to move; if the disorder is seated lower down, there are shooting pains that run from the loins towards the pelvis, the thighs, the external genitals, and the sacral region, along the ligaments of the uterus. Lastly, when the cervix is the affected part, it may be known by the vaginal touch which gives rise to excessive suffering. But of all the causes that serve to exasperate the pain, none is so distressing as the incessant motions of the child.

"Like other rheumatic pains, those of the womb are movable, and are observed occasionally to pass suddenly from one portion of the organ to another. They often suddenly cease, and proceed to attack some other organ. This is most apt to happen, where the uterine rheumatism has been preceded by a fixed pain of some other part of the body, and where remedies are in use calculated to recall the pain to its original seat.

"These pains are characterized by frequent exacerbations that are variable as to their duration and intensity; according to the stage of the malady, they are succeeded by remissions, during which the patient scarcely complains of a vague sense of weight.

"The pains of uterine rheumatism are generally attended with a degree of recto-vesical tenesmus, which is violent in proportion to the severity of the pains and the approximation of the seat of the rheumatism to the lower segment of the organ. In such cases, the patient is tormented by perpetual desire to urinate. The discharge of the urine is accompanied with smarting pain, sometimes with severe pains, and in some instances the discharge cannot be effected at all; the efforts to discharge the contents of the rectum are, in some cases, equally fruitless. Most of the German authors attribute this double recto-vaginal tenesmus to the rheumatic disease, which is not always confined strictly to the uterus alone, but may likewise invade the circumjacent organs. M. Stolz seems disposed to think that it arises from the close sympathetic relations of parts so nearly approximated to each other. Should these new pains be owing to a vesical or rectal rheumatism, those of the womb would disappear, or at least be diminished in degree, according to the views of M. Salathé in his Thesis.

"It is to be supposed that there is a degree of heat and swelling of the affected parts; but it is easy to perceive the difficulty of absolutely determining this point, one which we are compelled to admit from analogy.

"Pains of such violence, situated in an organ so important, must of necessity produce a pretty severe general reaction. The disorder, like most of the inflammatory diseases, generally commences with a slight rigor, which lasts fifteen or twenty minutes. The succeeding fever diminishes, or may even wholly cease during the interval between the attacks, yet while they last it is commonly quite severe; the pulse is hard and frequent, the face flushed and excited, the tongue red and dry, the thirst urgent; the skin is hot, and the patient is often found to be extremely agitated and restless. Towards the close of the paroxysm, there frequently supervenes a copious sweat, which seems to be the harbinger of a decided improvement. After this, these general symptoms are appeased, together with the uterine pains, only to reappear with them, after the lapse of a few hours, or even of several days.

"1st. *Influence of Rheumatism on the progress of Pregnancy.*—Where the attacks may have persisted for a length of time, or where they have been very violent, they are followed by uterine contractions, and may, in this way, bring on premature delivery. In such a case the patient suffers from severe tensive pain. This feeling of tension is not equable, for it rises to a great height, and then subsides—to begin again and pursue the same course at different intervals. At first the womb becomes partially, and afterwards universally hardened during the pain. The cervix becomes rigid and partially dilated, but its dilatation is at first slow and difficult, and its subsequent progress does not correspond with the pace of the pains. The abortion, with which she is now menaced, is more likely to take place in the febrile than in the apyretic form of rheumatism. Indeed, abortion is not so common an occurrence in the case as might be presumed. In some instances the os uteri has been observed to dilate to the extent of two or three centimeters in diameter, the bag of waters has been formed, and afterwards withdrawn little by little, the orifice closing again, and all symptoms of labour wholly to disappear. As long as the diameter of the os uteri does not reach the extent of five centimeters, we may reasonably hope to put off the labour. These uterine rheumatic pains may simulate labour pains, and lead to the belief that they are really labour pains, while in fact they are not at all so. The characteristic signs of the rheumatic pains, given in the following paragraph, should serve to prevent such a mistake. It is surely to mistakes of this kind, that we ought to refer those cases of supposed protracted pregnancy, and those instances of real labour, begun, and suspended again for weeks and even for months together."

On the 29th January, 1842, Mrs. O., aged twenty-eight, in her first pregnancy eight and a half months, was suffering with the symptoms of severe

rheumatism of the womb, which had afflicted her since about the 12th of the month. On the 15th of the month, fearing that labour was begun, I examined and found the os uteri dilated fully a quarter of an inch, and the cylindrical tubule of the cervix wholly gone; but on the 29th of the month, or fourteen days later, during all which time she suffered more or less, the os uteri was not only closed up, but the cylindrical tubule of the cervix was reproduced, and continued so until her child was born on the 16th day of February.

About three years since, a lady, a missionary, landed here from a voyage from Madras, of one hundred and twenty days. She walked a good deal on the day of her debarkation, and was seized with the signs of labour the same evening, being not quite eight months gone with child. The pains were strong; I found the os uteri an inch and a half in diameter, with the membranes tensely drawn across the opening. The labour was suspended in the night, but returned again the next afternoon; and during twenty-four days that she continued to be annoyed, more or less, with signs of labour, the os uteri never closed, and, at the end of that time, she gave birth to a small, but healthy male child. I have had many occasions to see persons threatened with labour, and even precipitated into it, by rheumatism of the womb.

M. Cazeaux says nothing of the diagnosis, which I regard as one among the most difficult that can be presented to the mind of a physician. To make the diagnosis between pleurisy and pleurodyne, is often a very difficult task, and one of considerable moment, too; but, to make out satisfactorily all the points of difference betwixt rheumatism of the womb and the acute inflammations of the organ, especially in the lying in, is still more momentous. Rheumatism is, so far as my experience of it enables me to speak, most apt to attack very nervous and susceptible women who have become weakened and reduced in strength, from whatever cause. In such subjects, it is highly desirable to get through the case without much resort to the stronger antiphlogistic measures; but, if we mistake an intense metro-peritonitis for a case of rheumatism of the uterus, we shall abstain from any vigorous and eradicative employment of the lancet, under the vain hope of curing our patient by milder and less costly processes than the exhausting venesections which are so indispensable in the true inflammation.

I have had such great difficulty in settling, to the satisfaction of my own judgment, the diagnostic differences betwixt the two maladies, in several violent cases that have fallen under my notice, within a few years, that I should be thankful for the indication of a clear method of coming to the decision. In both maladies is the fever often violent; in rheumatismus uteri there is rheumatic neuralgia of other parts, and a preceding history, that may enlighten the practitioner to his decision. In the two diseases there is equal sensibility of the abdomen; meteorismus may accompany both. The heat of skin, and frequency and volume of the pulse, are alike

in each—the decubitus similar; but the tongue is clean, so far as I have noticed it in the rheumatic case. Distracted with the uncertainty and doubt in which the case is involved, I have commonly been able to satisfy my mind by a direct appeal to the organ itself, in the operation of *Touching*. In both maladies, the *Touch* is at first painful; in metritis and metro-peritonitis, it is so under all circumstances; but, in rheumatismus uteri, though the first touch of the womb is painful and *quick*, yet when the organ is gently and slowly raised upwards with the index and medius, the pain either ceases wholly or is much mitigated, by taking off, in this way, the tenesmus uteri; not so in the inflammation, where every touch is more painful the more it is prolonged. I may be permitted to add, that I have heard of several cases of death from puerperal fever, where, upon an autopsy, not the least vestige of inflammation was discovered, either in the peritoneum, the uterine veins, the substance of the uterus, or any of its appendages. Is it uncharitable to suppose that such patients died, not with the malady for which they were treated, but with another disorder, to wit, rheumatismus uteri, which demanded quite a different mode of cure?* but I fear to extend this note too far, and therefore M. Cazeaux proceeds as follows: M.

"2*d*. *Influence of Rheumatism upon Labour*.—An attack of uterine rheumatism generally retards the progress of a labour, and sometimes even renders the spontaneous expulsion of the fœtus wholly impossible. In addition to the general phenomena I have described, there are here some special ones to be met with. 1st. It is well known that a normal contraction does not begin to be painful until it has accomplished the greater part of its task, and is in the act of dilating and distending the os uteri; in other words, the true pains of labour do not begin until the instant at which the energy of the corpus uteri begins to overcome the resistance of the cervix. In rheumatism of the womb, on the other hand, the uterine contraction begins to be painful from the start, and before the least power is exerted on the neck; so that the cause of the pain is not in the violent distension of the orifice, but in the contraction itself, in other morbid circumstances, and in other relations of the nerves and contractile fibres of the womb. 2d. In a natural labour, the contractions commence at the fundus uteri, and are directed towards the lower segment. In rheumatism, instead of commencing at the fundus, they commence at the painful point, and run towards the neck in an irregular manner. Again, the pains exist before the contractions of the womb; and, under their influence, when they are established, acquire a high degree of intensity. Their violence sometimes arrests the contractions

* M. Cazeaux himself, near the end of this article, says that it is often liable to be mistaken for a pure inflammation, and then treated by remedies more likely to be injurious than beneficial. If it be true that the danger to life from rheumatismus uteri be but small, as Mr. C. supposes, it is at least dangerous when improperly treated under a false apprehension of its dangerously inflammatory and destructive character.

before they have run through their ordinary cycle. They are, in such a case, brisk, short, and grow less and less frequent. 3d. Towards the close of the labour, when the action of the womb requires to be sustained by the voluntary contraction of the abdominal muscles, the woman, for fear of increasing her sufferings, refrains from contracting her abdominal muscles, which causes the labour to be excessively slow. The patient is in a state of extreme anxiety; the frequent pulse, the hot skin, the thirst, the urinary tenesmus, are much augmented. When the sufferings are too much protracted, she at last falls into a collapse, (which is often a fortunate event for her;) during which the pain is suspended. Under these circumstances, a profuse sweat has been observed, which has had the happiest effect on the rest of the labour. But, in other instances, the womb grows more and more painful; it is rather in a state of permanent contraction, or fibrillar vibration, than of real contraction; the pulse becomes accelerated, and now the woman is under the influence of a metritis which renders the labour extremely painful.

"3d. *Influence of Rheumatism of the Womb on the puerperal functions.*—One may conceive, *à priori*, that uterine rheumatism, by causing irregular or partial contractions of the organ immediately subsequent to the birth of the child, might be the occasion of much difficulty in the delivery of the placenta; but this is not the place to discuss that point.

"In health, after the delivery, the womb contracts, and thus prevents hæmorrhage. But in rheumatism this return of the organ is very incomplete; it remains above the pubis and is large. The after-pains are now very painful, and continue for a long time. The uterine vessels are less compressed, whence may arise very copious floodings. On the other hand, the state of suffering in which the organ is placed diminishes the lochial discharge, and the secretion of milk. The persistence of abdominal pain, added to the symptoms of a general reaction, might lead to the diagnosis of a peritoneal inflammation, though none such should really exist.

"*Prognosis.*—Rheumatism of the womb is not a disease capable of causing the loss of the mother's life; but from the pain it occasions, and the mistakes to which it leads, it nevertheless merits all the attention of the physician. In pregnancy, it may cause abortion; and though it does not generally exhibit itself until the sixth month, it is always unfortunate for the child to be born before full term. We have already remarked upon the unfavourable effect produced by the disorder on the course and character of labour-pains. On many occasions it has led to the necessity of artificial delivery. It may likewise render the delivery of the after-birth difficult, and derange the course of the phenomena that ought naturally to follow after the birth of the child. At this period it is often confounded with phenomena that are purely inflammatory, and is then treated by measures that are hurtful rather than beneficial.

"The disorder is for the most part less favourable when attacking at an

early than at a late period of gestation; because it has a more unfavourable influence on the progress of the gestation as yet incompletely established and settled; and also because it has a tendency to be reproduced again and again before the completion of the term, and on account of its disposition to return during the labour, which it is apt to render laborious.

"*Treatment.*—1st. During pregnancy, blood-letting, intestinal revulsives (ipecac., castor oil) baths, opiated lotions for the abdomen—anodyne potions, sudorific drinks. Such are the measures which have been most constantly successful. In cases where the affection of the uterus had followed the sudden disappearance of a rheumatic pain of some other part, revulsives should be applied to the part first affected. 2d. During labour, the same means are applicable; should they fail, and the os uteri as to its dilatation admit of it, let the delivery be effected by means of turning or the forceps. 3d. After delivery, sudorific drinks, anointing the abdomen with opiated ointments, baths, leeches to the vulva, and when the lochial discharge has failed, ipecac. and opium combined."

## OF CHRONIC METRITIS OR SUBACUTE INFLAMMATION OF THE PROPER TISSUE OF THE UTERUS.

Of all the diseases to which women are exposed, there is none more common, or more apt to be misunderstood than chronic inflammation of the womb. This affection, not in itself very dangerous, is nevertheless often followed by the most unfortunate results, because persons who are attacked with it, guided by a sense of natural, but unreasoning modesty, put off consulting the physician until their sufferings and inconveniences become altogether insupportable, and sometimes even until the march of their disease has placed it beyond the resources of art.

This affection, like acute inflammation of the uterus, may occupy the whole of the organ or be confined to the neck, and in the same way may succeed to acute metritis, or declare itself primarily in the chronic state. These observations upon the seat and etiology of uterine inflammations, had already been made by the ancients; for, in speaking of the disease which now engages us, Ætius* expresses himself in the following manner: "*Uterus interdum nullo prius indicante signo repente induratur,*" and Paul of Egina, who copied a part of the works of Alexander Trallianus, and who was of great authority amongst the Arabian physicians, says also: "*In scyrrhum*† *induratur uterus aliquando derepentè mullâ prægressâ causâ.*"

When chronic inflammation of the womb follows acute metritis, it recognizes the same causes; when, on the contrary, it is primitive, it results from special causes, which we shall divide into predisposing

* Contractæ ex veter. Tetrab., lib. xvi. cap. 86.

† De Medic., lib. xxiii. cap. 64. Paul of Egina, (loc. cit.) and Ætius, (loc. cit.) designate chronic inflammation of the body of the womb by the word *Scyrrhus*, and that of the neck of this organ, by the term *Sclcroma.*

and exciting. Among the former, we should include depressing moral affections, a lymphatic temperament, scrofulous childhood, herpetic or syphilitic diathesis, cancerous hereditation, bad alimentation, dwelling in a low, humid or imperfectly ventilated place, the custom of wearing tight corsets, and of reading works which produce turgescence of the uterus. Chronic metritis is most common from the twentieth to the fortieth year; it occurs more particularly in women who have borne several children, who have had easy abortions or premature confinements; in young women without children, and in girls at puberty, whose menstruation is painful and irregular, and finally in women approaching the critital age.

When this disease is primary, it may, like acute metritis, be determined by excessive coïtus, by masturbation, by the presence of a pessary in the vagina, by herpetic or rheumatic metastasis; by the cooling of the extremities during or after violent exercise; by the application of a cold body to the thighs to suppress uterine hæmorrhage; by cosmetic lotions during or after the flow of the menses; by sitting on a cool and damp place, as a stone-seat, or the grass; the immoderate use of ices or sherbets at balls; violent emmenagogues, prolonged celibacy, and absolute continence; the real or relative disproportion of the sexual organs; the presence of one or more polypi and attempts at their ligature or extraction; the forced dilatation of the mouth of the uterus; the use of foot-stoves and exposure of the genital parts to great heat; the use of tea or of alcoholic drinks; and finally, this affection may come on sometimes without appreciable cause that can be explained. Chronic metritis is generally difficult to recognize at the commencement, and we may at most, perhaps, suspect its existence, because of the changes which occur in the temper of the woman, who becomes sad, melancholy, impatient and irascible. But these symptoms are commonly useless to the physician, who is seldom consulted previous to a period at which the disease is made evident by symptoms sufficiently distinct to remove all uncertainty.

In order to place the diagnosis and treatment of subacute and chronic metritis in greater order or clearness, we shall mention the principal forms under which it presents itself to observation, to wit: 1. Subacute and simple inflammation without engorgement; 2. Chronic inflammation with engorgement; 3. Subacute and chronic catarrhal inflammation; 4. Inflammation with ulceration; 5. Inflammation with granulations.

### CHRONIC METRITIS WITHOUT ENGORGEMENT.

This form of chronic metritis has been described by M. Lisfranc, and called by that able practitioner, *sub-inflammation without engorgement;* it is characterized by acute pain increased by long standing, by exercise on foot and in a carriage, and especially by coïtus. Women attacked by it feel a sensation of great heat and smarting in the pelvis, accompanied with weight in the lumbar and iliac regions,

and a kind of turgescence and burning heat in the uterus. The sensibility of the organ is so much augmented, that the effort to expel the fæcal matter gives pain.

Notwithstanding these symptoms of irritation, in whatever mode the Touch is performed, we find nothing anormal in the volume, consistence or situation of the neck and body of the gestative organ, unless it be that the orifice of the uterus presents a rather greater degree of dilatation than is customary. The introduction of the finger and still more of the speculum into the vagina is extremely painful; this latter mode of exploration enables us to ascertain that the os tincæ is free from engorgement, and presents nothing anormal.

This sort of chronic metritis, without appreciable change in the uterus, sometimes comes on without any evident cause, and produces pains which are remittent or more frequently intermittent. It is chiefly on this account that most practitioners, regarding the affection as purely nervous, are satisfied to prescribe palliative means, or they abandon the disease to itself, whence it happens that it makes rapid progress, and the pains constantly go on augmenting.

It is therefore of the greatest importance to recur from the first to antiphlogistics, and especially to general bleeding, to baths, to emollient and narcotic enemata, to demulcent drinks, etc. If the pain continues to attack in paroxysms, we might resort to the use of sulphate of quinia, combined with the watery extract of opium.

## CHRONIC METRITIS WITH ENGORGEMENT.

It is under this form that chronic metritis most frequently presents itself to our observation.

The engorgements of which the neck or body of the womb may be the seat, ought to be divided into two classes, presenting several varieties.

In the first class, comprising all the engorgements without induration, are found, simple hypertrophy, œdematous engorgement, and sanguine engorgement, with or without hæmorrhage; in the second class, which comprises engorgement with induration, we range hypertrophy with induration or simple white engorgement, scirrhous engorgement, and tubercular induration.

Before describing the sensible signs which distinguish all these varieties of engorgement, we shall enumerate the symptoms which are common to the greater part of them, and which depend in part on the augmentation in weight and volume of the uterine organ, as well as partly upon the disturbance of the neighbouring parts.

Commonly, when the organ is the seat of any engorgement or hypertrophy whatever, it almost always prolapses, either preserving its natural direction, or taking one more or less considerably inclined. The pressure, which in this case is exerted upon the rectum and bladder, often gives rise to obstinate constipation, to pains more or less acute in the expulsion of the fæcal matter and urine, and almost always to a sensation of weight, and painful troublesome

dragging about the sacrum, in the groins and loins, and even along the whole extent of one of the sciatic nerves.

We must add to these symptoms a feeling of heat, a deep-seated obscure pain in the hypogaster, which increases at intervals while standing, or walking, and especially during coïtus, from the pressure of the penis on the os tincæ. This increase of pain is associated with a sense of pruritus and rawness in the pelvic cavity, and most commonly with a transient or continued fever, in either case slight, and perceived particularly during the period of menstruation; finally, the phenomena common to all the chronic inflammations of the womb, under whatever form observed, are the following: the women suffer remarkable modifications of their menstruation; if their menses appear at the ordinary epoch, they generally last a shorter time, and the blood is pale and almost serous; when, on the contrary, they fail for several months, a hæmorrhage almost always occurs, which lasts ten, fifteen and even twenty days, and which produces discoloration of the face, feebleness and emaciation. Between each menstrual epoch, there takes place from the vulva a seromucous or sanguineous, or even a fetid discharge, which has been described as the principal character of confirmed cancer, and the colour of which, its consistence and quantity, are extremely variable. Hysterical phenomena almost always appear, especially in young women; some suffer from mammary pains, and other nervous symptoms, such as palpitation, cramp and formication in the legs, oppression, and general restlessness; the stomach, which is connected with the uterus by the strongest sympathy, almost always partakes of the pathological condition of the organ; the patients lose their appetite; their digestion is laborious and accompanied with nausea, eructation, and vomiting, which is peculiar, inasmuch as it generally relieves the female, so that when the stomach has rejected the first aliment that it contained, what is afterwards taken may frequently be retained.

When the disease is left to itself, the vaginal discharges become more abundant from day to day, the health steadily deteriorates, the debility increases, a slow fever sets in, finally the whole economy seems to participate in the morbid condition of the uterus, whose chronic inflammation is often the prelude to a fatal disorder; in some cases, on the contrary, the woman seems to enjoy a moderate degree of health for a long time, and to preserve her embonpoint, colour and strength pretty well, notwithstanding the progress of the disease.

The major part of the symptoms we have just enumerated, and which can be learned only from the report of the patient, always indicate that the uterus is in a pathological condition; but taken separately, they are of little value in making a positive diagnosis, since they give as good reason to suspect the existence of a commencing degeneration, of a polypous tumour, a prolapsus, or any other lesion of situation, as to clearly show that the gestative organ is the seat of a chronic phlegmasia, or of a simple or ulcerated engorgement.

To remove all uncertainty upon this point, it becomes necessary to resort to the touch and to the application of the speculum, which are the more valuable as means of making a good diagnosis, inasmuch as they alone yield us certain signs for recognizing and perfectly distinguishing all the chronic affections of the uterus.

## ENGORGEMENT OF THE UTERUS WITHOUT INDURATION.

Uterine engorgement without induration, is nothing else than the disorder called by M. Lisfranc, *morbid hypertrophy*, the chief character of which is an augmentation in size of the uterus without alteration of tissue.

The engorgement without induration, may occupy the whole of the uterus, or simply its neck, but commonly this latter part is alone affected, and it is well to remark that when the morbid hypertrophy attacks a part of the gestative organ, it occupies it entirely, and not by isolated points, as happens in scirrhous engorgement.

Chronic metritis without induration, is recognized not only by the symptoms which we have already enumerated, but also by other more certain signs afforded by the Touch and by the speculum.

On carrying the index-finger into the vagina, we find that the walls of this canal, as well as the neck of the uterus, are the seat of anormal heat and much greater sensibility than in scirrhous hypertrophy. The os tincæ and the body of the womb present nearly the consistence proper to them in a pregnancy of a month or six weeks. Were we desirous, says the celebrated surgeon of La Pitiè, to give a comparative idea of the sensation felt by the finger, we should call to recollection that which is produced by a lipoma not yet degenerated, or the mamma of a young girl who has perished by a sudden death, or, finally, that of a body slightly compressible or resisting, elastic or somewhat spongy; in performing the Touch per rectum, we feel the body of the uterus yield under pressure, as though we pressed upon a cushion full of wool or cotton which had been compressed.

The orifice of the neck is generally found more dilated than in its normal state, and the end of the index-finger may frequently be carried into it, but in this case we do not feel the sensation of craquement, which exists in engorgement with induration. If we explore the parts by means of the speculum, the neck, partly effaced and tumefied, as in pregnancy, is of a more or less deep red colour, and sometimes even of a brown or vinous red, but the colour is uniform throughout its whole extent; nevertheless, in certain cases, small isolated spots may be remarked here and there, which give a dotted aspect to the surface of the os tincæ.

It is of the utmost importance not to confound simple engorgement of the uterus with another much more serious affection which differs essentially from it, and which is nothing else than softening of the uterine parenchyma. Where this pathological condition is present, the tissue of the gestative organ recedes under the pressure of the finger like the skin of a rotten apple; instead of meeting an elastic spongy tissue, one giving the sensation of the mamma of a young

girl, or of a lipomatous tumour, we find a pultaceous ætheromatous tissue, whose envelopes seem to contain matters having the consistence of a brownish bouillie or semi-fluid honey; this morbid condition, which is often accompanied by superficial ulceration, constitutes what most authors have called occult cancer.

As this last pathological lesion offers no chance of safety except by the removal of the degenerated portions, it becomes very important not to confound it with simple morbid engorgement, which is very curable, and never requires any operation. To the differential signs which we have just mentioned, we might add that, hypertrophy without induration is ordinarily of recent date, and that it occupies the neck, and frequently the whole of the womb, while scirrhus and cancer date from a more distant period, and remain a longer time limited to a small portion of the uterine organ.

The treatment of this kind of chronic metritis offers two different indications, according as the engorgement exists with or without pain; in the first place, we should have recourse to antiphlogistics, to emollient and soothing drinks, to injections nearly cold, and to sedative enemata of the same temperature; to small bleedings from the arm, which ought to be rather revulsive than depletory, and which should be used, as far as possible, six or eight days after the flow of the menstruæ, with the view of dissipating the weight, the pain, and the remains of the congestion commonly present after each menstrual evacuation.

If the woman, however, were strong, and of a sanguine and plethoric temperament, the treatment should be opened by a depletory bleeding of eight or twelve ounces. In every case we should prescribe absolute rest, complete abstinence from the conjugal approach, and the patient should be submitted to a regimen, which might be somewhat modified according to her habits and temperament, but in general it should consist of vegetables, white meats, fish, preparations of milk, cooked fruits, etc.

If the engorgement were accompanied by but little pain, and if there remained merely a sensation of weight in the pelvic cavity, we should, in like manner, have recourse to the remedy already mentioned; but in this case it would be well, (in order to hasten the resolution,) to allow of a little exercise, and to recur to revulsives, such as dry or scarified cups, douches about the pelvis, small moxas, whether after the method of Baron Larrey, or by means of an iron hammer dipped in boiling water, as recommended by M. Mayor of Lausanne. For ordinary drink, we might prescribe bitter infusions, and allow a moderate coïtus, which, by procuring slight excitation, might contribute to dissipate the remains of the disease; in case the woman should continue, notwithstanding the methodical employment of these measures, to experience some uneasiness and pain in the pelvis, we should assure ourselves of the state of the parts with the aid of the speculum, and should excoriations be discovered upon the os tincæ, we might cause their disappearance by cauterization with the acid nitrate of mercury.

Though this treatment be simple, it ought, in order to succeed, to be

followed scrupulously and with perseverance, for the cure, which commonly requires from one to three months, may, in some cases, be prolonged much beyond this. The patient and physician should then arm themselves with patience, and not judge of the progress of the cure by the march of the pains, for, as M. Lisfranc has remarked, these sometimes augment in proportion as the engorgement diminishes.

## OF ŒDEMA OF THE NECK OF THE UTERUS.

This increase in size of the neck of the uterus, which has been described by M. Duparcque,* is an extremely rare disorder, which seems principally to attack women of the lymphatic temperament, subject to catarrhal affections, and especially to old and profuse leucorrhœa.

The determining causes of œdema of the neck of the womb are unknown, yet it would appear that it may be the result of the sudden suppression of an abundant and serious uterine catarrh, especially in persons convalescing and still labouring under general atony; according to M. Duparcque, (loco citato) this affection may also be the result of violence applied to the neck of the uterus during labour; but in such case, the œdematous engorgement, which persists or augments up to the appearance of milk-fever, diminishes or disappears ordinarily before six weeks or two months.

In performing the vaginal examination, the neck of the womb, which is commonly depressed, is found to be the seat of a tumour in form of a circular swelling, presenting at its centre an infundibular depression which terminates in a narrow orifice. Carried up to a level with the insertion of the vagina, or introduced into the vagina, the finger readily ascertains that the tumour is strangulated above, and lost in the body of the uterus, whose size is not increased. The kind of engorgement which is felt is indolent, almost insensible to the touch, and much lighter and more elastic than the others; moreover, it will always be easy to distinguish and establish a certain diagnosis by means of the speculum, which will allow us to perceive a transparent whitish tumour, retaining the impression of the finger, and forming a ring-like projection, which seems to be strangulated at its point of junction with the uterus.

It appears that the local treatment of this œdematous affection, which has been little observed, ought to consist in the employment of punctures made in the circumference of the os tincæ and in astringent injections. The general treatment should vary according to the circumstances and causes which have produced and keep up the disease. However, in the greater part of the cases, we should prescribe the use of diuretics, and aromatic sudorifics conjointly with stimulating and dry fumigations, made with gum benzoin or juniper berries. We think that it would also be advantageous to recur, under some circumstances, to the employment of tonics, and principally the martial preparations.

* Traité des Alterations organiques de la Matrice, p. 92.

## SANGUINE ENGORGEMENT OF THE UTERUS WITH AND WITHOUT HÆMORRHAGE.

The congestive engorgements which, as well as the preceding, have been described by M. Duparcque, present two varieties, whose characters we are about to lay down, from the able practitioner whom we have just cited.

The first kind, or engorgement from simple congestion, besides its development at the menstrual epochs and after labour, may be produced by all the general causes of metritis, and the special excitants capable of provoking and maintaining a too considerable sanguine afflux towards the gestative organ; simple sanguine engorgement, which is variable in its size, may be carried to such a degree, that the womb sometimes acquires, in a little while, a volume equal to that which it presents at the fourth or fifth months of pregnancy. This state of congestion of the uterine parenchyma, which somewhat increases the natural consistence of the parts, and which determines no other pain than that which results from the contractions of the organ, ought not to be confounded with the engorgement produced by acute inflammation of the womb. The latter affection may be distinguished from it by different symptoms which we will describe presently, and especially by great sensibility; by the less considerable development of the organ, and by all the general and local phenomena indicative of inflammatory action.

According to M. Duparcque, whom we quote literally, the symptoms of sanguine engorgement of the uterus, are nearly the same as those of metritis, but in a less degree; sensation of enlargement, tension and weight in the pelvis; lumbar, sacral and inguinal pains; uterine pains, in paroxysms more or less frequently repeated and prolonged, during which, it seems as though the uterus contracted violently to expel the blood with which it is engorged; peculiar pains, known by the name of uterine colic or cramp; uterine tenesmus; and lastly tormina. These pains are sometimes so violent, that the patients are forced to bow themselves strongly while they last. Nevertheless, pressure, as well as the touch, show the insensibility of the engorged parts, at least in the intervals of the tormina, which is the reverse of engorgement with inflammation, a case accompanied by most violent pains and constant soreness.

The general symptoms, sometimes absent, at other times very marked, bear upon the nervous and circulatory system; whence various forms of neurosis, and also fever, a general condition rare at this time, or which lasts but a short time.

M. Duparcque has reported several cases which prove that engorgement from congestion passes into the condition of subacute inflammation, and thence into the most profound organic transformations. He adds that this affection often serves as a prodrome to acute and chronic metritis, as well as to the hæmorrhagic engorgements of which we are about to speak. When the congestion exists, the slightest causes may develop inflammation or excite sanguine losses. Besides, simple and recent sanguine engorgement leaves few

or no traces at the autopsy, because, at death, the engorging fluids retrograde and abandon the vascular system of the gestative organ.

The *treatment* of this affection ought to consist, first, in the diminution of the fluxionary movement, by removing the causes which have determined or which maintain it, and in recalling it towards the other organs by means of derivative bleedings, of cups, and of irritants applied more or less freely to the congested organ. If, after the employment of derivatives, the engorgement should not be dissipated, we must encourage the establishment of the local hæmorrhagic flux, which is the most natural mode of termination of the uterine congestion. Then, we must resort to local baths, to relaxing drinks, to emollient applications, to antispasmodics, and to sedatives, to combat, at the same time, the rigidity of the womb, which, as well as the nervous and anormal condition of this organ, may be the cause of the retention of the sanguine flux. Finally, we might supply the place of this discharge by means of an application of leeches to the os tincæ; and if the congestive engorgement be kept up by an atonic state of the organ, it should be treated by astringents or by ergot, to the amount of a drachm, taken in doses consisting of several grains, and repeated every two hours. If the sanguine congestion should resist means, based upon the principles which we have just explained, it is probable that we have to do with some other alteration, which we should seek to recognize and oppose by therapeutical agents, to vary according to the nature of the disease.

### CONGESTIVE ENGORGEMENT, WITH HÆMORRHAGE.

This species of engorgement, which may occupy the whole or only the neck of the uterus, develops itself in the same manner as the preceding; it is likewise produced by the same causes, that is to say, by a fluxionary movement, which, in this case, is excessive, and, in particular, more prolonged; and which, moreover, is always accompanied by an abundant and continual hæmorrhage. This sanguine discharge from the vulva, the colour, quantity and consistence of which are variable, is the most constant symptom of the engorgement which occupies our attention.

If we explore the parts by means both of the Touch and speculum, we find the neck tumefied, softened and of a more or less deep red colour; the mouth of the uterus, which is enlarged in proportion to the engorgement, as well as the whole surface of the tumour, is the seat of a sanguine exudation which, though often considerable and permanent, does not at all diminish the congestion. The os tincæ, covered with clotted blood, appears smooth to view, but somewhat uneven to the touch; by gentle pressure, we perceive a slight sensation of crepitation, and cause an oozing of black blood, which escapes as from a sponge.

The general phenomena, which are the consequence of the continual losses of blood, vary according to their duration and amount. The skin becomes tense and pale, the strength gradually diminishes,

and the patient, who feels a sensation of dragging and weakness in the præcordial and hypogastric regions, soon loses her appetite, or it sometimes becomes insatiable.

When the disease has reached its last stage, the skin assumes a yellowish, straw tint, as in ordinary cancerous affections; the eyes seem dull, and if some women are observed to retain a certain degree of embonpoint, it is because the surface of their bodies has become the seat of a general bloating which conceals the wasting of their muscles. On examination per vaginam, the neck of the uterus is found to be macerated, and transformed into a sort of ulcer, presenting a layer, which is softened and putrid, surrounded by a hard, and, as it were, scirrhous tissue. Hæmorrhagic engorgement, which has reached this stage, is extremely serious, and there is no hope of seeing tissues so profoundly changed, return to their normal condition. When the disorder is recent, or seems to be the continuation or augmentation of the hæmorrhagic congestion of the menstrual epochs or of labour, the prognosis is less unfavourable, and we may even hope to obtain a perfect cure by resorting to a rational plan of treatment, one modified according to circumstances. In general, the danger of the disease is in proportion to the violence and duration of the uterine hæmorrhages.

The treatment of engorgement from congestion with sanguine discharge, in the early stage, that is to say, without softening of the tissues, is nearly the same as that of engorgement from simple congestion: thus, it should, like that, be at first confined to derivative bleedings, to dry and scarified cups, to sinapisms, etc. If, as often happens, these remedies should not arrest the fluxionary movement, and consequently the uterine discharges, the employment of bleeding should be abandoned, in order to recur to an astringent and styptic medication, which, though injurious in the commencement, suits very well where the hæmorrhagic engorgement is maintained by an atonic and relaxed condition of the diseased tissues, which is mostly the case where the disease, existing for a long period, has occasioned a general debility. In this condition, we may obtain the happiest results, from the internal use of extract of rhatany, of decoctions of oak-bark, solutions of alum, the mineral acids, ferruginous preparations and natural or artificial ferruginous mineral waters; amongst others, those of Spa, of Forges, of Passy, etc.; finally, ergot seems, in some cases, to offer advantages which have been ascertained by several practitioners, particularly by Dr. Duparcque. When the disease has reached such an extent that the parts have become softened and disorganized, the medical treatment should be limited to the use of palliatives. We can hope to effect a cure only by the destruction of the diseased part, by means of a cutting instrument or by cauterization; but, unfortunately, it is difficult, and even impossible, to ascertain the limits of the alteration, and consequently to know whether it be entirely accessible to surgical operations. We shall conclude by saying that engorgement from congestion, with hæmorrhage, presents so great an analogy to fungous hæmatodes, that it is probable that a large number of the cases of fungous cancer of the womb, reported

by authors, were nothing more than hæmorrhagic engorgement, in the last stage. What especially distinguishes the latter lesion from the cases of fungus is, that the hæmorrhages accompanying it are more obstinate, more abundant and more constant, and that the tumour does not present a narrowed base and indurated pedicle, as usually happens in fungous cancers of the uterus. This distinction is of the greatest importance for the surgical treatment; in the fungus we may hope to attain the limits of the disease, while, in hæmorrhagic engorgement, it often happens that the alteration of tissue extends as far as the body of the organ, which contra-indicates any surgical operation, which is, nevertheless, the only means to be employed with any hope of success.

After death, we find the cervix uteri swollen, and transformed into a soft, friable tissue, of a blackish colour. The parenchyma of the uterus is also more or less disorganized, and reduced into a mass of fibro-cellular and vascular filaments, tearing readily, and lost in the midst of black and coagulated blood with which it has been infiltrated; M. Duparcque compares this alteration to the tissue of an engorged and semi-putrified spleen. The external surface of the organ commonly presents a layer of healthy tissue of greater or less thickness, whilst the parenchyma is found the more disorganized, the nearer to the cavity of the uterus we examine it.

## OF PRIMARY ENGORGEMENT WITH INDURATION.

This kind of engorgement with induration offers more than one point of similarity with simple engorgement without induration. It is produced by the same causes, announced by the same symptoms, and gives rise to the same general disorders; but the hardening of the tissue of the womb, which the touch reveals to us, is so characteristic a sign of engorgement with induration, that it is impossible to mistake it for the morbid hypertrophy without induration, of which we have spoken before.

Simple white engorgement with induration ordinarily dates from a period not long foregone and the greater part of the patients say that their sufferings have begun after a sudden suppression of their menstruæ, after a recent abortion, or a labour which, like the other two accidents, has taken place within two or three months. The recent origin of the induration renders the cure commonly prompt and easy, but it is important to distinguish this species of engorgement from scirrhous engorgement.

In both cases, the pain may be null or equally lancinating, and in performing the Touch, we discover that the womb is a weight and volume more considerable than in its normal condition. In engorgement with simple induration, the tissue is rather less hard, and presents an even surface of a rose colour; while the scirrhous engorgement exhibits bosses and irregularities, and besides the mucous membrane of the cervix uteri, which appears of a dull white colour, is much more sensible to the touch. Finally, the treatment being the same in all points, hypertrophy with simple induration,

generally requires a treatment of only one or two months; it requires, on the contrary, a much longer time to obtain the resolution of a scirrhous engorgement, which becomes extremely difficult, and even impossible where the disease is ancient. M. Duparcque says very justly that it is not easy to seize upon the transition of hard engorgements from the curable to the incurable state; it is in fact only upon eventual circumstances that we can, in this respect, establish a diagnosis. According to this author, the cure is possible so long as the induration continues to be formed of a fibro-albuminous substance, disposed in the meshes of the cellular tissue of the diseased organ; but the resolution cannot take place, when the same substance passes into the cartilaginous condition, and still more into a state of ossification. Moreover, the diagnosis is less important than one might suppose, because the treatment is the same in either case, only the chances of cure are very different. The curative means of the hard primary engorgements are equally indicated in the scirrhous engorgements; but then they are merely palliatives, which sometimes arrest the progress of the disease and render the pain much more bearable.

The treatment of simple engorgement with induration differs but little from that of simple engorgement without induration; that is to say, we must first resort to antiphlogistics, then to resolvents and discutients, administered either internally, or externally in the form of frictions. Sulphurous baths, and ascending douches about the neck and the pelvis are likewise prescribed with advantage. Finally, if the disease prove refractory, we may add to these means the powerful revellents, such as moxas, setons, the cautery, etc. Generally speaking, the disease readily yields to the remedies directed against it. Sometimes the cure is effected by the efforts of nature alone, but commonly, when the disease is left to itself, it degenerates into scirrhus, and is soon beyond the resources of our art.

## OF SCIRRHOUS ENGORGEMENT.

Scirrhous engorgement is produced by the same causes, and presents the same symptoms as simple engorgement with or without induration: although the lancinating pain which it determines is commonly more acute, and more frequent, we should not, as most authors pretend, regard it as having an essential character, since it may exist in engorgement without scirrhous degeneration.

The symptoms that particularly distinguish scirrhus of the neck of the womb are, as we have already said, the slowness with which the tumour is developed, the hardness, comparable to that of a petrifaction, and the irregularities and protuberances which the finger meets with when we examine per vaginam; finally, the dull white colour or ivory yellow which the cervix uteri presents when the parts are examined with the speculum.

The treatment does not differ from that of engorgement with simple induration; it should never be lost sight of that from the treatment being generally very protracted, it becomes necessary, for that reason,

to husband the strength of the patient, and not to recur to sanguine evacuations except with much care and prudence; besides, we must moderate the activity of the circulation by the use of cooling drinks, baths, repose, rigorous diet, the internal use of nitre, and of digitalis; and with the view of modifying the organic elements of the blood which seem more especially to concur in the formation of scirrhous engorgements, we should insist more upon pills of soap, the saline laxatives, exutories, diaphoretics, etc. Finally, in order as far as possible to direct the sanguine affluxion towards parts more or less distant, we should frequently repeat dry cupping, stimulating frictions of the skin, flying sinapisms, sulphurous baths, douches, etc. In speaking of the general treatment of engorgements of the uterus, we shall treat of the mode of employing the different remedies in question, and the different modifications which their application demands, according to circumstances.

Though most authors have regarded the hard engorgements as nearly incurable, we believe, with MM. Lisfranc, Récamier, Duparcque and other distinguished practitioners of our period, that scirrhous tumours of the womb may, as often happens for those of the breasts, yield to a persevering and well-directed treatment. The three practitioners whom we have cited have published numerous cases which confirm this opinion; besides, if Hippocrates, Galen, Fearon, Hufeland, Ledran, Vacher, Pouteau, Marc Antoine Petit, *of Lyons*, MM. Récamier and Lisfranc, and some others, have succeeded in dissipating indurated tumours of the mammæ, wherefore refuse to admit a similar result for hard and chronic engorgements of the uterus? What proves, moreover, the practicability of the resolution of scirrhous tumours, is that it has been found to result from the efforts of nature alone? M. Pauly reports that two women, condemned by M. Lisfranc as having an engorgement of the womb, recovered perfectly without being submitted to any treatment. (*Maladies de l' Uterus*, p. 315.)

We shall conclude by saying that all hard engorgements, simple, or presumed of scirrhous nature, which have been developed after some disorder of the menstruation or after labour, are generally susceptible of resolution. Those that commence or augment at the critical age commonly resist all the means opposed to them; but with the aid of a well-directed treatment, they often remain stationary. Finally, the hard engorgements, whose prognosis is most unfavourable, are those which are covered with soft protuberances, and which occasion lancinating and deep-seated pains; in such a case, we may be certain of their early and inevitable transformation into ulcerated cancer.

## TUBERCULAR INDURATION.

Tubercular induration of the uterus is more frequent than is generally supposed. It mostly attacks women of lymphatic temperament and of feeble and delicate constitution. The nature of this affection, and the immediate cause which produces it are unknown; we, how-

ever, range ourselves on the side of those physicians who regard it as the effect of a chronic inflammation, which may develop itself only in persons who are predisposed. The circumstances which it is reasonable to allow as having the power of facilitating the production of the tubercular induration which now engages us, are the internal use of mercury, want of exercise, living in dark rooms, sedentary occupation, a poor diet, and several other causes, which have no activity without a certain predisposition that we are unable to appreciate.

The signs which enable us to recognize tubercular induration of the neck of the womb are furnished us by the vaginal Touch, and by exploration with the speculum. By carrying the finger to the os tincæ and making slight pressure, we find that its tissue is the seat of hard points which form a more or less considerable projection, and which are separated from each other by depressions having the normal consistence of the neck of the womb in its healthy state. It happens sometimes, however, that the depressed tissue which separates each induration is found to be hypertrophied by the tubercular matter. In some cases the salient points converted gradually and by separate portions into a puriform fluid, soon open and give rise to little scrofulous ulcerations, which we shall speak of at another time. While the tubercles, although softened, are not open, they give to the exploring finger the sensation of a partial degeneration, and in this case the diagnosis cannot be made in a very positive manner, because we then rely in some sort only upon the constitution of the female. The exploration with the speculum almost always allows of our discovering the nature of the lesion, when the tubercular engorgement is open, because, by pressing the extremity of the instrument gently upon the cervix uteri, we see starting from the centre of the opening a drop of puriform matter of a tubercular nature.

The progress of this disease is generally slow; it commonly threatens but little danger in itself, since, by the efforts of nature alone, tubercular cavities have been seen to cicatrize temporarily or definitively; however, this fortunate termination ordinarily takes place but slowly, because new tubercular cavities often form in proportion as the old ones advance towards cicatrization. Moreover, the malady demands the local and general treatment proper to scrofulous ulcerations; that is to say, in cases where it is recent, we must have recourse to antiphlogistics, employed with care, because of the feeble constitution of the patient; we should then prescribe, especially if the disease be chronic, the bitter infusions of hops or of gentian, the ferruginous preparations, the tincture of iodine in doses of ten to thirty drops daily, the use of sulphurous waters, particularly those of Bonnes and Barège, natural or artificial, mercurial frictions upon the internal surface of the thighs and on the hypogastric region; lastly, resolvents, tonics, and all the therapeutic, hygieinic and dietetic means which apply to tubercular affections.

## OF LEUCORRHŒA, OR THE WHITES.

Of all the names given to this disease, that of *uterine catarrh* seems at first the most correct, because it is agreed that we shall comprise, under the general term *catarrh*, all inflammations of the mucous membranes, and because leucorrhœa is commonly regarded as being the result of an inflammation of the internal membrane of the uterus. Yet if, on the one hand, we reflect that the denomination of uterine catarrh does not separate the idea of leucorrhœa, properly so called, from that of syphilitic blennorrhagia, which it is always necessary to distinguish, and especially in practice; and, on the other hand, we recollect that the leucorrhœal discharge, far from being always the result of inflammation of the uterine mucous membrane, is more frequently determined by relaxation and atony of the utero-vaginal mucous membrane, it will be conceded that the term uterine catarrh is not beyond the reach of a just criticism. For example, it is allowable to regard as the result of an inflammation of the internal membrane of the womb, that leucorrhœa which succeeds to warm baths, to a debilitating regimen, and especially that which, after some vivid emotion, appears suddenly, flows without pruritus, without pain, and is unaccompanied, except with certain nervous symptoms, such as yawning, slight uneasiness in the stomach, and general malaise ceasing with the moral cause which gave them birth. Does not this transient state bear with it the marks rather of a debility or of a spasmodic affection than those of a true inflammation? Can we more properly ascribe to a periodical inflammatory state, the sero-mucous flux which prepares, completes, or even substitutes itself for the flow of the menstruæ?

Although the word leucorrhœa does not in itself possess perfect exactitude, and though it expresses only the constant symptom of a utero-vaginal affection, characterized by a discharge more or less white, we have thought it would be preferable to the word uterine catarrh, whether, because, like the last, it does not make us infer any thing as to the causes, nature and seat of the disease, or because it is, moreover, consecrated by general use.

Leucorrhœa, which derives its name from two Greek words, λευκος, white, ρεω, I flow, has been observed from the highest antiquity, and has received almost as many denominations as there are authors who have written upon it. Hippocrates, Aretæus, Galen, and Avicenna treat of it with much detail, but, like most of their successors, being supported only by the anatomical and physiological knowledge of their day, they have emitted opinions more or less incorrect upon the nature and seat of the disease. If Avicenna and F. Hoffman have wandered least from the truth in assigning the vessels secreting the menstruæ as the point of departure of leucorrhœa, Degraaf, Heurnius, Severin Pinault, and especially Chareton, Morgagni and Bonnet approach much more nearly to it, in considering this discharge as a pathological secretion of the mucous glands, whose existence and orifices they had discovered upon the interior of the genital parts. But it was reserved for the labours of modern physicians,

especially those of Pinel and Bichat to describe in a positive manner the diseases, organization and functions of the mucous membranes.

Without regarding inflammation as the sole cause of leucorrhœa, we assert, that whatever be the origin of the affection, it has, as a principal and constant character, an anormal secretion of mucous fluid, more or less white, escaping from the vulva in uncertain quantity, and of variable shades and consistence.

Wishing to isolate this disease, as it ought to be, as to its study and treatment, we shall comprehend, under the name *leucorrhœa*, only the essential and sero-mucous supersecretion, which results either from simple subacute or chronic inflammation of the utero-vaginal lining membrane, or from a state of general or local atony. We shall not treat in this chapter, therefore, of those symptomatic purulent discharges which depend on blennorrhagia and other syphilitic affections, of acute uterine catarrh, properly so called, which has a rapid course, or finally, of those produced by the presence of a pessary or other foreign bodies, by various alterations of the uterus and vagina, as by scirrhous polypous-fibrous or cancerous tumours, by ulcerations of the os tincæ, dropsy and suppuration of the ovaries and Fallopian tubes, and various other lesions which it is useless to recapitulate.

Though it is generally agreed at present, that leucorrhœa has its immediate source in the follicles, and upon the whole surface of the lining membrane of the uterus and vagina, various circumstances would make it appear probable that the leucorrhœal discharge may also be in part formed by a serous exhalation from the vessels that secrete the menstrual blood. In fact, has it not been remarked, that a serous fluid, regarded as slight fluor albus, ordinarily precedes the eruption of the menstruæ, and that when this latter evacuation is irregular, it alternates with a leucorrhœa that augments in proportion as the sanguine discharge is less abundant, and vice-versâ. Do we not also see suppression of the menses often replaced by a salutary leucorrhœa, and do we not know, as Freind has observed, that women, who, in this condition, have abundant fluor albus, suffer less injurious results from their suppression, and that the same phenomenon often presents itself in them at the final cessation of the menstruæ. Though the intimate connections of these two evacuations can be rendered still more evident by the remark, that the appearance of the menstrual discharge commonly suspends leucorrhœa, it may be proved, on the other hand, that fluor albus, coming on during pregnancy, is furnished solely by the mucous crypts of the vagina, which, moreover, would tend to prove that leucorrhœa may have its origin in any of the sources that we have just mentioned, or in either one of them at one time. Unfortunately, positive facts are wanting, and without them there remain only conjectures and uncertainty.

In populous cities, as in a most favourable soil, leucorrhœa is developed under the influence of so great a number of causes, that there are few women, especially at Paris, who are completely exempt from it. Although this affection makes its appearance, particularly from the first approach of menstruation up to the period of its ces-

sation, there is no age free from it. G. P. Neuter, Johannes Dolæus, Roderic à Castro, Fernel, Morgagni, met with little girls of six or eight years of age who were attacked with it; we, ourselves, have had occasion to observe several examples of it; among others one in a new-born infant.

Utero-vaginal catarrh, which M. Alibert regards justly as that to which the female is most frequently subjected by her peculiar organic constitution, may likewise be allied to any of the temperaments; but a lymphatic temperament, general debility, a cachectic state, and a certain inflammatory susceptibility of the mucous membranes, peculiar to certain subjects, are circumstances which predispose to this affection.

Thus it is met with more particularly in females who are large, fair, nervous, hysterical, slight, delicate, and in those with red hair, and who have the skin covered with stains. Though women with a brown skin, and black hair, are not exempt from it, it belongs rather to those who are in the opposite circumstances.

A temperature habitually cold and humid, and a prolonged residence in low marshy regions, also, in an especial manner encourage the production of leucorrhœa; it is chiefly to the union of these two conditions, that *Sylvius* attributed the frequency of the disease amongst the women of Holland, which, for the same reason, is common in a part of Belgium, in Lower Normandy, and in certain parts of England.

The mode of life to which the social condition condemns women inhabiting large cities, delivers them over, so to speak, defenceless, against the numerous causes of the chronic inflammations of the utero-vaginal mucous membrane.

Thus, in populous cities, idleness, effeminacy, a sedentary life, the constant contact of the two sexes, and the frequenting of places where every thing inspires pleasure; prolonged watching, dancing, frivolous occupations and the study of the arts that give new activity to the imagination; erotic reading, the pernicious establishment of an early and artificial puberty; the premature shock of the genital organs; solitary pleasures; the concentration of the sentiments and thoughts on objects which keep the genital organs in a sort of permanent turgescence and excitation: finally, a number of vicious habits and excesses of all kinds, which, by introducing modifications more or less profound into the general constitution, react more particularly upon the sensibility of the womb, which, in the female, is not only the organ most apt to lend itself to fluxionary movements, but likewise the centre towards which all the morbific actions seem principally to tend.

The use of foot-stoves, and of coffee and of tea, may also contribute a good deal to the production of leucorrhœa; the same is true of the too frequent use of salt meat and fish, shell-fish, farinaceous substances, whether indigestible or too succulent, beer, spiced dishes, ablutions too often repeated, the abuse of warm baths, of purgatives, of emmenagogues, and of preparations of milk. *Nota mihi sunt exempla,* says Stahl, *puellas interdum satis diù à fluxû albo curato*

*mansisse immunes ; ut primum vero lac sumpsêre, continuo recidivum fuisse passas.*

It is necessary also to range among the causes of leucorrhœa, the sudden cessation of excretions, whether natural or artificial, amongst others those of general or partial perspiration of the feet, of the hands, and of the arm-pits ; there are some women in whom it is sufficient to have the arms uncovered, to wet their feet, or to sit down upon a cold or damp body, in order to be seized, immediately, almost, with fluor albus. The suppression of an exutory, such as a cautery, a blister or a seton ; that of an habitual vomiting, of a diarrhœa, of a hæmorrhoidal discharge, of the suppuration of an old ulcer ; the retrocession of cutaneous eruptions, of an herpetic, psoric, arthritic affection, etc. ; lastly, derangements of menstruation, failure of lactation, debility of the gastric system, the sudden disappearance of a coryza, of a pulmonary catarrh, or of any other disease of the mucous membrane ; these are all likewise so many causes that may determine an attack of leucorrhœa.

The close sympathy between the brain and the organs of generation, accounts, to a certain degree, for the development or augmentation of the affection which engages our thoughts, in consequence of a moral disorder. However it may be, we often see it suddenly arise, or become increased, when it already exists, under the influence of some vivid emotion, some tormenting chagrin, some profound disappointment, anger, or sudden fright, etc. A lady, seeing an only daughter on the point of being torn from her by a cerebral fever, was suddenly inundated with a leucorrhœal discharge. A young girl, twenty-three years old, who was at No. 12 of the *Rue Transonain*, during the night of the 13th to the 14th of April, 1834, having seen her lover killed by some soldiers, and owing her own safety to chance merely, was immediately attacked with abundant fluor albus.

Finally, we shall conclude what we have to say upon the causes of the disorder, by adding that it has been known to prevail epidemically, under the influence of inappreciable and fugitive principles of the atmospheric constitution, often noticed under entirely opposite conditions.

Morgagni, Raulin and Broussonnet have had occasion to observe epidemics of this nature. The last of which Raulin was witness, occurred at Paris, in 1765, during a burning heat of the weather, and excessive drought. Epidemic leucorrhœa has also been observed during cold and damp weather. Moreover, the latter cause of the disease is one of the most frequent. Weikard, the translator of Brown, states that, in a convent at St. Petersburg, all the pupils were affected with fluor albus, because they had been reared in exposure to rigorous cold, under the pretext of giving them a more robust constitution.

As acute inflammation of the utero-vaginal mucous membrane really exists only in recent blennorrhagic discharges, or in those which depend upon a local cause ; for example, the presence of a pessary, or of some other foreign body in the genital cavities ; upon the constant abuse of venery ; upon criminal copulation ; relative or

absolute disproportion of the organs; masturbation, irritating injections, etc.: we have thought it right not to speak, in this place, of acute uterine catarrh, depending on the causes which we have just mentioned, in order not to present to the consideration of the reader, the essential leucorrhœa, properly so called, except in its subacute and chronic forms, which are the true types of the disease. This division, which, moreover, has no inconvenience in practice, has the advantage of facilitating the study of the disease, and especially of distinguishing it from the symptomatic discharges and acute inflammations of the utero-vaginal mucous membrane, with which it is always confounded.

The *subacute leucorrhœa* which opens with truly inflammatory symptoms, and sometimes even with a febrile movement, begins with slight pruritus, which is at first confined to the vulva, but soon extends itself to the vagina and uterus. The patient feels dull pain in the hypogaster, sensation of heat and weight in the centre of the pelvic cavity, draggings in the loins, groins and thighs. She is tormented by frequent desire to urinate, and sometimes by venereal desires. The voiding of the urine is often accompanied with some difficulty, and a feeling of uneasy and painful heat. Finally, there is not unfrequently conjoined with these different phenomena a sensation of hysteric strangulation and spasmodic oppression at the upper part of the thorax.

The discharge, which is at first small in quantity, clear, serous or sanguineous, especially if it follows uterine hæmorrhage, soon augments, becomes thicker, and presents a colour which is variable, and which may be white, lactescent, yellow or greenish. The secretion is sometimes so abundant that the female is compelled to guard herself, as during the menstrual evacuation; the spots on her linen are yellow or greenish, and give it a starched stiffness. Exploration, by means of the touch or speculum, reveals to us that all the genital parts are redder, more inflamed and more sensitive; that the neck of the womb is more dilated than in its normal state; finally, that the mucous membrane of the os tincæ and vagina is swollen, doughy and sometimes even excoriated or slightly ulcerated.

In cases of recrudescent leucorrhœa, that is to say, those which diminish, augment, or disappear alternately, it is often difficult to distinguish certainly what form we have to deal with; and it is only by groping, that we are able, in certain equivocal cases, to recognize the true character of the affection, and direct the treatment which suits it. We should, however, regard as subacute or active, the leucorrhœa that alternates with the menstruæ, at least during the day preceding or immediately following their evacuation; that which comes on after a universal febrile movement in young and sanguine women; finally, that which is determined by the constant abuse of coïtus, by extreme fatigue, or other causes of general excitation; such, for example, as long watching, the immoderate use of seasoned, salted and stimulating dishes, and alcoholic liquors, etc.

The *passive chronic leucorrhœa*, although succeeding often to the subacute form, may not only exist without presenting any inflammatory character, but may even depend primarily upon a state of

general relaxation or local debility. The chronic leucorrhœal discharge resulting from this form is met with chiefly in lymphatic women and those of a loose fibre; and it is for this reason that the infirmity is much more common in cold and humid regions. It is equally frequent in women whose genital organs are relaxed by numerous labours or excessive venery. It co-exists ordinarily with chlorosis, amenorrhœa, and may be the cause, the effect, or index of a state of general atony and relaxation.

Women afflicted with chronic leucorrhœa, depending on debility of the genital organs or of the general constitution, although possessing a vermilion tint and seeming to enjoy good health, generally have a peculiar *facies*, which may help to enlighten the physician and lead to the recognition of the disease; the face and lips are pale, the eyes surrounded by a dark areola, the eyelids are often swollen, and, finally, an expression of languor in all the features gives to their whole appearance an air of dejection. *Quando autem de matrice humores multi sunt, oculi dolent, caput calidum habent vel languidum et vertiginem patiuntur*, says Hippocrates.

Essential chronic leucorrhœa is never accompanied by signs of irritation of the genital organs; the period of its invasion is almost always unknown, no matter what the cause which may have produced it; its progress is very irregular, and its duration unlimited. As happens in the acute form, the colour, consistence and quantity of the discharge vary in different cases; its amount is often very slight, and it is then a mere inconvenience, which attention to cleanliness prevents from becoming too disagreeable; at other times it escapes from the vulva in sufficient quantity to keep the external genital organs and the upper part of the thighs constantly wet, and to produce slight excoriations and superficial inflammations of these parts, which are easily prevented or dispelled by lotions and topical bathing.

It happens, not unfrequently, that the affection is complicated with relaxation of the vagina and falling or vicious inclination of the uterus; but these lesions of situation, which augment the inconveniences of leucorrhœa, and which are betrayed by sensations of weight about the rectum and bladder, are rather the effects than the causes of fluor albus properly so called.

When small in quantity, the discharge is commonly mucous, and hardly stains the linen; it has scarcely any odour, and the colour is whitish like that of thick whey. If, on the contrary, the leucorrhœa be abundant, the mucous discharge is usually lactescent, and from its colour and consistence sometimes bears sufficient resemblance to milk to have attracted credence to the so-called milk diseases and to give plausibility to the false theories of the humoralists. Under these circumstances the discharge, when dried, stiffens the linen and leaves a grayish spot, deepest at its edges, very similar to that produced by the nasal mucus. Sometimes the secretion is more consistent, flocculent and even caseiform; when abundant, and especially when of long standing, whatever be its colour and consistence, it always occasions certain lesions of the functions, and a great number of sympathetic phenomena. The women complain of weight in

the lumbar and hypogastric regions, of vague sensations of lassitude, of pains in the epigastrium and of cholic. They suffer from depraved appetite, from acidity, nauseous eructation, headache, frequent yawning and hiccough; the skin is cool, and sensitive to the least atmospheric variation; they perspire but little; they complain of unusual heat in the head, of vertigo, syncope, palpitation of the heart, excessive coldness of the feet, occasional pains under the left breast; the face becomes pale, the eyes hollow, and they weep without cause; they become careless, impatient, and feel a sort of languor and dejection, a sensation of strangling or choking, and an involuntary sadness; they are apathetic, melancholy, hypochondriacal; in fine, they never exhibit the happy physiognomy characteristic of the sex, and are often tormented by erotic desires, which drive them into vicious habits, and at the same time augment their languor and exhaustion. When menstruation becomes re-established in cases of amenorrhœa and chlorosis, the leucorrhœal discharge diminishes, or ceases entirely; with it disappear all the nervous symptoms; the paleness soon passes away, gaiety returns, and the functions of the stomach, as well as the general health, return to their natural condition.

When the discharge is constant, profuse and of long standing, exhaustion and degradation of the constitution are soon found to be the unfortunate and necessary results of this flux, which never ceases, and which seems to attract to itself the sources of all the other excretions, and thus to cause a drain upon the whole economy. The skin now becomes more and more discoloured, the emaciation increases, the flesh becomes loose, the breasts are soft, the pulse small and frequent, and the breath fetid; the eyelids become bloated, the legs are always cold, and the whole body sometimes becomes œdematous. The patient complains of almost continual cholic, and of pains along the vertebral column, in the loins, hips and hypogastric region. She is tormented with constant thirst; the appetite is lost; she suffers from habitual pain in the stomach and from obstinate constipation; she is subject to nausea, eructations and acid vomiting; the urine is turbid, flocculent and in small quantity. When leucorrhœa reaches this degree of severity, the patient acquires a disgust and indifference for every thing; her faculties become enfeebled; she is unfitted for reproduction as much by her indifference as by the disgust which she inspires: finally, moral debility and settled despair, together with hectic fever, exhaust the few remains of strength, after having destroyed all that lends a charm to life.

Amongst the discharges which might be confounded with essential leucorrhœa, are naturally found those which depend upon a syphilitic taint, and those which are symptomatic of some other more or less serious affection of the uterus or vagina; Walter Charleton, Van Swieten, De Graff and some others supposed leucorrhœa to be seated in the vagina and uterus, whilst blennorrhagic discharges have their point of departure at the entrance of the vagina, and especially in the neighbourhood of the urinary meatus and in the lacunæ situated between the nymphæ. Astruc, Baillou, Pitcairn and Raymond,

without regarding the examination of the parts as an infallible mode, think with propriety that it may be useful in making out the diagnosis. Benjamin Bell placed the seat of syphilitic discharges in the canal of the urethra, and, like M. Ricord, advises pressure upon this canal from behind forwards with the extremity of the finger; "we shall express in this way," says this author, "the matter of the syphilitic infection." But numerous and well-observed cases prove that the inductions drawn from the presumed difference of seat deserve but slight confidence; the same is true as to the persistence of the blennorrhagic discharge during the flow of the menstruæ, and the suspension, on the other hand, of the leucorrhœal flux upon the appearance of menstruation. In fact, the signs indicated by Jean Fernel,* physician to King Henry II, by Jean Liebault,† Louis Mercatus,‡ Roderic à Castro,§ Lazare Pé,‖ Primrose,¶ Mauriceau,** Charleton,†† Pierre Frésart,‡‡ and which were regarded by Baglivi §§ as infallible, are just as illusory as those already mentioned; for, with Baillou, Astruc and several other physicians, we have seen both these sorts of discharge occurring at the same time.

The pain which precedes a blennorrhagic discharge, and which, according to Pinel, is never present in leucorrhœa, the sensation of heat and smarting felt while urinating, which has been indicated by several authors, and especially by Charleton, (loc. cit.,) as a characteristic mark of syphilitic discharges, the co-existence of arthritis with vaginitis, described by M. Ricord, and finally the pale red tint and whitish and coppery spots, which M. Richerand regards as the marks of blennorrhagia properly so called, are not really pathognomonic signs upon which a positive opinion as to the nature of the disease can be safely made out.

The consistence, the different alterations, and the various tints of the utero-vaginal secretions are quite as deceitful; for, as M. Lagneau has said, "the green or yellow colour of the discharge, its greater or less quantity, its ever-variable duration, the differences in the intensity of the inflammation, are not data sufficient to allow a prudent physician to pronounce positively, for syphilitic blennorrhagia is often indolent, lasts but a short time, and furnishes little matter, the colour of which is almost always of a milky white; whilst we daily meet with discharges we are compelled to regard as non-virulent, presenting these different phenomena in the most marked manner."

The contagious property of the discharge, and its transmission by coïtus, are not better calculated for solving the problem; for daily experience shows that it is possible to cohabit with a woman

* La Pathologie de J. Fernel, lib. vi. cap. 16.
† De la santé, fécondité et maladies des femmes, liv. v.
‡ De affect. mulierum, lib. i. cap. 15.
§ De morbis mulierum, lib. i. cap. 4.
‖ Maladies des femmes, liv. ii. ch. 36.
¶ De morbis mulierum et symptom, lib. v.
** Maladies des femmes, anat. des part. enit. chap. 6.
†† De Catam. et uteri rheumatismo, cap. 8.
‡‡ Emmenolog. cap. x.
§§ De praxi medica, lib. ii. cap. 8.

having syphilitic blennorrhagia without contracting the same disease, whilst leucorrhœa may become so irritating as to communicate an acute blennorrhagia. The age, the moral character of the patient, and the antecedents may likewise lead to error. Mauriceau states that three little girls, the eldest of whom was only nine years old, were brought to him, supposed to have fluor albus. He having interrogated them, soon convinced himself by their answers, notwithstanding the absence of all violence upon the genital parts, that they had been infected by some wicked domestics.

From what we have now said, it is easy to see that the signs proper to distinguish a true leucorrhœal discharge from one dependent upon syphilitic blennorrhagia, have always presented the greatest uncertainty even to the most experienced practitioners. Cullerier, whose opinions upon this matter are of the hightest value, leaves the question undecided. M. Ricord, who, by his excellent judgment and varied observation, is better fitted to decide upon this subject than any one else, does not conceal his embarrassment; for, he says, in one of his memoirs, "that without the actual existence of consecutive symptoms, which, moreover, must be fully ascertained, we remain in the greatest uncertainty as to the diagnosis, being able in reality merely to recognize the physical alteration of the parts and their secretions, without having the power of learning the intimate nature or essence of the disease, if we may so express it, and finding ourselves reduced to the detection of the existence of an urethritis, vaginitis, or uterine catarrh, while beyond this all is probability, and very often error." Sauvages, in his *Methodical Nosology*, (class 10,) also concluded that Medicine supplies no certain signs by which to distinguish gonorrhœal discharges from the leucorrhœal secretion, properly so called: *nec dantur limites qui genus gonorrheæ in mulieribus à leucorrheâ discernant.*

The uncertainty which, for so long a period, has prevailed as to the diagnosis of the discharge from the genital organs of the female, has just been removed in great part by the researches, as novel as they are ingenious, to which Dr. Donné, ex-chief of the Clinic of the Faculty of Medicine of Paris, has been recently devoting himself. As it is of the greatest importance for the therapeutical, and often for the moral interests of the patient, dearer still than those of health, to remove all uncertainty as to the nature of utero-vaginal secretions, we shall proceed to point out in few words the differential signs, mentioned in the excellent memoir,* published by the young physician we have just cited.

In venereal blennorrhagia the discharge is always purulent, that is to say, a certain quantity of pus is mixed with the proper mucus of the vagina. In this condition the secreted matter contains a multitude of animalcules, called by M. Donnè, *vaginal trico-monas*, which are discovered by placing a drop of the muco-purulent fluid between two fine glasses, and examining them with a microscope,

* Recherches microscopiques sur la nature du mucus et la matière des divers écoulements des organes génitaux-urinaires chez l'homme et chez la femme. Paris, 1837.

magnifying from two hundred and fifty to three hundred times. These infusory animals, whose bodies are transparent, and of round or oval form, with a diameter of $\frac{1}{120}$ to $\frac{1}{30}$ of a millimeter, are most commonly united in groups of from two to six individuals. When examined with the light of a lamp, they may sometimes be seen to move, more especially to agitate in every direction a long filiform and very delicate appendage, which serves to distinguish them from the spherical and inanimate globules of true phlegmonous pus, in which they are never observed to exist.

The discharge of true leucorrhœa is thick, creamy, and does not stick to the fingers; it reddens litmus paper, and seems to be composed of little oval bodies, having the appearance of pellicles or scales from the mucous membrane; finally, it never contains the infusory animalcules found only in syphilitic discharges, and besides, ammonia gives it a slimy and ropy consistence when it is mixed with pus, which does not occur in the contrary case. If the muco-purulent discharge be occasioned either by the presence of a foreign body in the genital cavities, by an irritating injection, or any other local cause of inflammation, independent of the venereal virus, the *tricomonas* is never developed, although the secreted matter then resembles that of the syphilitic blennorrhagia, that is to say, when treated with ammonia, it assumes a viscid, tenacious and ropy appearance.

To distinguish vaginal from uterine mucus, it is sufficient to know that the former is not only thick, creamy and never ropy, but also that it is acid, and that it reddens litmus paper, while mucus secreted by the womb is always alkaline, returns the blue colour of litmus paper, turns the syrup of violets green, and finally, has such a slimy, ropy and tenacious consistence, that it is with great difficulty it can be detached from the margin of the os uteri. Such, in a few words, are the means of diagnosis, pointed out by M. Donnè, whose memoir we recommend. In it will be found related, with as much detail as clearness, the results of the interesting researches he has made upon this subject.

If the discharge proceed from a cancer, an abscess, a polypous tumour, or any other organic lesion of the womb or vagina, we might easily make the diagnosis by a consideration of the symptoms proper to these affections, and especially by the exploration of the parts by the Touch and the speculum.

The prognosis of leucorrhœa depends upon the cause, the duration of the discharge, its quantity, the complications, the strength of the female, her age, temperament, and finally, the hygienic condition in which she may be placed. Where the cause is a permanent one, such, for example, as the presence of a pessary in the vagina, the use of foot-stoves, of coffee, of unhealthy aliment, a moral affection, &c., the removal of the cause is soon followed by a cure, unless the disease persist from the habit of fluxionary movement, which then renders the case more uncertain and more difficult. Leucorrhœa, coming on in the subacute form, is also easier to cure; in general, the older the discharge, the less are the chances of cure; in women

of advanced age, it is almost always incurable, which fact justifies the unfavourable prognosis made by Hippocrates, when he said: (*De Morb. Mulier.*) *hic fluor senioribus prope incurabilis est, et eas usque ad mortem comitatur.* If the leucorrhœal flux be abundant and accompanied by numerous sympathetic phenomena, if it date from several years back, if it seem to be hereditary and constitutional, or finally, if it be complicated with cachexia, with scrofula, or with herpetic affections, the progress of the disease is difficult to arrest, and it often proves rebellious under all the means opposed to it.

After death we generally find the vagino-uterine mucous membrane softened and swollen; the os tincæ is dilated, reddish, soft and hypertrophied; the mucous membrane covering the vagina and vulva presents a slaty or bluish tint; when compressed there oozes from all parts a fluid analogous to that which was secreted during life. The surface of the uterine cavity is overspread with little vesicles filled with a sero-mucous fluid; the membrane which lines it, commonly soft, loose and infiltrated, is sometimes marked by dilated vessels, and exhibits ulcerations, erosions, or, more rarely, it has the aspect of a cartilage, and is covered in several places with gangrenous spots.

Before entering upon the treatment of leucorrhœa, let us add a few words as to its more or less sudden suppression, and the accidents resulting therefrom.

The suppression of a leucorrhœal discharge may take place suddenly, as an effect of different physical causes, as the use of astringents taken internally or applied locally to the genital organs; of an emetic, of purgatives, of cold baths, the application of ice, the invasion of another disease; finally, the intemperate use of a number of panaceas, whose grotesque titles with impunity disgrace the columns of our journals and the walls of all our houses.

The dangers of a suppression of a vagino-uterine discharge are the more serious as the secretion is more abundant, and especially of longer standing. Although we should have to prepare an almost complete nosographical table in order to enumerate all the disorders which, according to most authors, might follow suppression of the leucorrhœal discharge, we believe that these disorders are much exaggerated, and that it is wrong to persuade women that their disgusting infirmity is a salutary emunctory, the very guarantee of their health. Let it not be supposed, however, that we believe it possible to suppress an ancient and abundant secretion suddenly without inconvenience, for we are as far removed from the audacity of empiricism, as from the timidity of ignorance. Our intention is merely to reduce to their just value the exaggerated fears of practitioners, and to prove to them that while we believe the cure of leucorrhœa ought to be undertaken, we are perfectly convinced that *a true cure* cannot be obtained except by acting in a gradual manner, and by insensibly restoring the economy to its normal state. It is, in our opinion, the more necessary not to abandon this disease to itself, because it not only compromises the reproduction of the species, but may

also lead to unfortunate moral consequences, and often does become the source of very serious alterations.

Besides, if, while acting prudently and rationally, accidents should happen to occur, we could always treat them and arrest their progress as soon as they appear.

The treatment of leucorrhœa ought necessarily to differ, as occurring in the subacute or active form, and in the chronic or passive form.

In the subacute form we ought, especially if the disease be recent, and the female young and plethoric, to resort to general bleeding, which acts, either as a derivative or by lessening the fluxionary movement which tends to localize itself upon the genital mucous membrane; it is necessary, however, to employ sanguine evacuations with prudence and care, or instead of diminishing the general susceptibility, we might often produce debility, and run the risk of forcing a subacute leucorrhœa near its term of resolution, to assume a chronic and passive type.

Among the means which serve to increase the effect of small general bleedings, and which, in most cases, are sufficient of themselves to moderate or entirely remove the inflammation, we include a more or less strict abstinence; diluent, mucilaginous, and acidulated drinks; emulsions, and especially decoctions of hemp-seed with nitre; emollient and opiate injections; enemata and poultices of the same nature; and continuous irrigations made by means of a large curved canula introduced into the vagina. To avoid the irritating effect of a jet of the medicated fluid, we employ a tin or gum-elastic canula, the end of which, being pierced with a great number of holes, contains a small sponge with a ribbon attached to it, by which to withdraw and renew it as often as may be necessary.

If the local inflammatory symptoms refuse to yield to the measures now indicated, we may have recourse to applications of leeches about the margin of the anus, especially if there be hemorrhoids, or to the vulva in cases of amenorrhœa; finally, should the disease prove very obstinate, we must establish a revulsive movement towards the intestinal mucous membrane by the use of purgatives, such for example as rhubarb, which is at the same time purgative, tonic and astringent. Goliken and Riverius obtained great advantages from the use of it; and Hippocrates, Forestus, Sydenham, Ettmuller, and many other physicians, had a like success from the employment of drastic purgatives. It was to the application of this derivative method that Galen* owed the brilliant success which

* De Præcognit ad Posthum., cap. 8. The father of medicine, who was acquainted with the sympathetic relation connecting the stomach and womb, likewise prescribed emetics in the treatment of fluor albus, provided the patients were still young and retained sufficient strength. Ettmuller, Fonseca, Hoffman, and some other physicians, have also recommended them; Doctor Rast, of Lyons, treated all cases of leucorrhœa by the use of ipecacuanha, administered in minute doses, and Barthez frequently pursued this method with like confidence. Though we deem it improper to resort to such energetic remedies without much reserve, we are of opinion that the physicians of the present period err in rejecting them altogether; and we believe, judging from our own observation and from a large number of cases collected by various authors, that gentle emetics, managed with skill, and repeated at suitable intervals, are really useful in cases that prove rebellious to antiphlogistic remedies.

spread his renown even to the palace of Marcus Aurelius. This celebrated physician of ancient times, by the use of purgatives, diuretics, and frictions over the whole surface of the body, very speedily cured the wife of Boëthus, suffering from a profuse leucorrhœa, which the skill of the first physicians of Rome had failed to relieve.

The utility of derivatives to the surface is perhaps more clearly established than that of derivatives to the intestinal mucous membrane, and it is, no doubt, for this reason that modern practitioners more frequently resort to the former method than to the latter. Diaphoretics, which are indicated by several of the causes of the disease, should be employed conjointly with stimulating and aromatic frictions, and the use of warm clothing and flannel to the skin. Should we find it necessary to determine a cutaneous irritation, as derivative from the utero-vaginal inflammation, and powerful enough to recall to the exterior surface any eruption to whose suppression might be attributed the existence and obstinacy of the discharge, we might resort to mustard poultices, to moxas applied upon the pelvis, and to flying or permanent blisters. Permanent exutories answer the double end in this case of causing revulsion from the genital mucous membrane, and of being at the same time supplementary to the leucorrhœal discharge. In fine, the treatment of subacute leucorrhœa presents two well-marked periods; the first comprises the employment of antiphlogistics so long as there are inflammatory symptoms, and the second the use of derivatives conjointly with revellents. During this second period we ought not only to allow a more nutritious food, but we should even prescribe some light tonics, such as bark, gentian, extract of centaurea benedicta, and rhubarb in small doses, infusions of common European centaury, of sage, balm, etc. We should likewise try slightly astringent injections, such as a mixture of water and red wine, sweetened aluminous water, acetate of lead, sulphate of zinc, etc., gradually rendered more and more active. It would be well to recur also to balsamic substances, for instance, tolu, cubebs, turpentine, and infusion of the cones of the European silver fir. The balsam of copaiba has always answered best in our hands, whether because we administer it in the form of sugar-plums* and of pills, or because we employ it in small enemata or in the form of suppositories prepared in the manner we shall presently describe. By the methodical use of these remedies, the disease is almost always soon overcome, and a radical cure obtained. But in order to attain this fortunate result, we must always favour the action of the therapeutical agents by the absolute repose of the genital organs, by attention to hygieine, and especially by the indispensable precaution of avoiding all kinds of excess or changes of regimen, which would not only prove a continual source of irritation, but would also renew the inflammation, where we had succeeded in quelling it.

* We addressed, six years since, to the Academy of Medicine, two memoirs on the copaiba and its preparation in the form of dragées (sugar-plums) without disagreeable odour or taste. Administered according to our formula, this remedy does not disgust the patient, causes no cholic, and acts in a more efficacious manner than in any other form.

An entirely different method of treatment should be adopted where the leucorrhœa is of the passive form, whether it has succeeded to some preceding type, or whether it be primitive, as for instance, when coincident with chronic amenorrhœa, with chlorosis or with relaxation of the sexual organs, due to a lymphatic constitution, to numerous pregnancies, or excessive coïtus and masturbation, especially when these occur in women advancing in years.

As the genital cavities are but slightly sensitive in passive chronic leucorrhœa, we should always assure ourselves by the Touch and the speculum, whether the discharge is really idiopathic, or whether it is symptomatic of some alteration of tissue, or some lesion of the vagina or neck of the womb. Should ulcerations or erosions exist, they must be cauterized with the acid nitrate of mercury, observing the rules and precautions presently to be mentioned. We must act in the same manner if small vegetations be found, but if large, they must be excised by some of the methods to be described hereafter. When the mucous membrane is found infiltrated or indurated, resort must be had to revellent frictions with ointment of hydriodate of potash, or mercurial ointment on the hypogastric region or on the inside of the thighs; and if the patient can bear it, a large plug of charpie, covered with a layer of mercurial ointment, may be introduced into the vagina.

When leucorrhœa becomes chronic and passive, it is not a mere local alteration that we have to treat, but the whole economy which is to be modified and restored to its normal condition. The object we must then seek is to dry up a morbid discharge, which is, at one and the same time, the cause and effect of the general and local debility, by reconstituting, so to speak, and giving tone to the various functions which are in a more or less perverted condition.

For this purpose experience has shown the efficacy of gentian, of rhubarb in small doses, and particularly of cinchona, which acts as a tonic, and perhaps also by interrupting the habit of the discharge. We have also tested the happy effects of the infusions of absinthium recommended by Professor Alibert; of the extract of centaurea benedicta, which forms the basis of the anti-leucorrhœal pills, upon which Stahl pronounces so pompous an eulogium; of steel filings mixed with myrrh, from which Hallé obtained great advantages; of the ferruginous acidulated mineral waters, of Forges, Spa, Vichy, Pougue and Passy; and of different martial preparations, amongst others the sub-carbonate and hydriodate of iron, but chiefly the black oxide of that metal, in doses of from three to six grains daily. Of the preparations administered internally, no one has been more constantly successful in our hands than the anti-leucorrhœal troches of copaiba, which formed the subject of a memoir, presented by us to the Royal Academy of Medicine, in 1832. The dose of our balsamic troches is eighteen per diem, six early in the morning, four in the course of the day, and eight in the evening upon going to bed. The number may be increased to thirty, and even forty, taken at three different times; but all the inflammatory symptoms must first have disappeared, and it is for this reason patients should never employ

them, without the preliminary advice of an enlightened physician, who can decide as to the propriety of using them.

The copaiba may also be administered by the rectum, in the mode proposed by Professor Velpeau,* who prescribes it in small enemata, prepared with six ounces of mucilage of marsh-mallow or flax-seed, and from four to six drachms of copaiba mixed with the yolk of an egg, with the addition of a grain of gummy extract of opium. These balsamic enemata ought to be retained. The quantity of copaiba may be gradually increased to an ounce, and even an ounce and a half, according to the degree of sensibility, which is different in different individuals. It may likewise be used, as we have employed it for a long time, in the form of suppositories, which we prescribe according to the following formula :

| | |
|---|---|
| Balsam of copaiba, | ℥j. |
| Beuerre de cacao, | ʒi. |
| Solid resin of copaiba, | ʒss. |
| Gummy extract of opium, | gr. ss. |
| To be made into a suppository. | |

The anti-blennorrhagic and anti-leucorrhœal suppositories should be used twice daily, in the morning, and at bed-time.†

To these means should be added the use of tonic and slightly astringent injections, consisting either of a mixture of water and sweetened wine, of decoction of bistort root, pomegranate bark, or a very weak solution of sugar of lead or sulphate of zinc ; these last injections should be used with care, in order to avoid too sudden suppression, and with the precautions that we mentioned while speaking of subacute leucorrhœa, after the example of Dr. Fleetwood Churchill, of Dublin, we might also make use of vaginal injections consisting of a solution of nitrate of silver, in the proportion of a grain to an ounce of distilled water ; while, however, augmenting progressively the quantity of the salt, we think it would be dangerous to carry it so high as the Irish physician recommends.‡

* Researches and observations upon the employment of copaiba, etc.: administered per anum in blennorrhagia. (Archives Gen. de Méd., tom. xiii. p. 33, 1827.)

† Doctor Donnè has also used the copaiba in the form of suppositories; though his formula differs but little from our own, we feel convinced that our worthy fellow practitioner was acquainted with our two memoirs on copaiba.

‡ Dr. Ricord employs the solid nitrate of silver, which he fixes in the slender blades of a pair of elastic forceps, so arranged as to grasp the caustic uniformly, as it dissolves, without allowing of its direct action upon the vaginal or uterine mucous membranes, through the lateral openings of the instrument. Six or eight hours after the cauterization, the patient should use injections of cold water, to be continued until the time for a new application of the nitrate of silver arrives, if this should be deemed necessary. When an examination of the diseased surfaces, and of the state of the secretion, shows that a sufficient change has been brought about, a tampon of dry charpie is introduced into the vagina, in order to separate the walls of that canal, which are then promptly restored to their normal state. We ought to add, that M. Ricord exposes the organs of generation by means of a speculum, and that he cauterizes first the uterine mucous membrane, then returning to the neck, he carries the caustic rapidly from the summit to the base, circularly, as well as over the whole vaginal mucous membrane, by bringing the instrument rapidly towards himself, as far as the vulva. Finally, in order to procure an immediate application, he is careful first to wash the surfaces with suitable injections. When the mouth of the uterus

In order to keep up a continuous action, Doctor Ricord uses tampons of soft charpie or fine sponge, impregnated with aromatic wine, with an astringent decoction, or with Goulard's lotion, carefully introduced to the bottom of the vagina, either with the index finger, or by means of the speculum; he then administers another injection in order to moisten the vaginal plug throughout, which are allowed to remain, and which should merely fill up without distending the vulvo-uterine canal.

In the employment of this tonic and astringent medication, it is necessary to be careful not to exceed a proper degree of stimulation, and to be always prepared to arrest its effects by means of sedatives, baths, and the antiphlogistic remedies.

As it would be useless in this place to cite all the substances which have been advantageously employed in the treatment of leucorrhœa, we shall rest content with mentioning those that have enjoyed or still possess most credit; for example, myrrh, incense, mastich, the balsams of copaiba and tolu, powdered cubebs, the cones of the northern fir, turpentine, ergot, recently employed by MM. Bazoni, Negri, Hatin, Dufrenois and Bocquet; finally the distilled cherry-laurel water, used both internally and by injection, by Doctor Caron du Villars; the cicuta, recommended by Storck and Quarin; and opium, which several practitioners have found serviceable, amongst whom M. Alibert, especially when nervous symptoms and hysterical spasms were present.

In spite of the careful employment of the curative means just enumerated, leucorrhœa often resists the efforts of the physician, unless he be seconded by the patient and by proper attention to hygieine. The regimen should be directed on the same principles as the medicines, that is to say, it should be fortifying without being irritating; the clothing must be warm, and flannel next to the skin ought to be recommended; we should advise a residence in the country in a pure and healthy air, especially in the summer season, which means have been known to dispel a chronic leucorrhœa very speedily, which, however has again appeared at the approach of winter or on returning to the city. The patient should use all her endeavours to overcome certain inclinations and illicit habits, which are frequently the chief and unknown cause of her sad and disgusting malady. She should compel herself to take muscular exercise without carrying it to fatigue, which will dispose her to take food at first light and of easy digestion, and then more abundant and more substantial.

We shall conclude by saying that the approach of the first menstruation, the pregnant state, and the critical age, are so many causes which should not be rashly interfered with. Prudence demands that

is not large enough to allow of the introduction of the nitrate of silver, M. Ricord has recourse to caustic injections made with the double-acting syringe, described in the memoir on blennorrhagia, presented by him to the Academy of Medicine. This method has been employed a great number of times for discharges which had resisted general medication and local agents; for cauterizing the vaginal mucous membrane, the proper method is to use a small sponge impregnated with a concentrated solution of nitrate of silver, and fixed on the extremity of a little shank of wood, or on our caustic-holder.

we should wait until their influence is no longer felt, and that we should also respect the critical discharges, for fear of recalling the disease, of which they are the substitutes. It is not proper to cure leucorrhœa except where it persists after the primary affection, and besides, we should always take the precaution to prevent, as far as possible, a recession, by means of an issue, and by the use of saline purgatives.

Such is a sketch of the numerous resources of medicine in leucorrhœal discharges, the treatment of which would doubtless be more successful if a bolder and more energetic therapeia, always based, however, on reason and the nature of the disease, were resorted to.

## OF REDNESS, SIMPLE ULCERATIONS, AND ERUPTIONS UPON THE OS TINCÆ.

Chronic metritis, accompanied with profuse discharge, is almost always followed by softening of the uterine mucous membrane, and sometimes by the development upon the os tincæ of red spots, excoriations, granulations, vegetations and different degenerations, which we shall proceed to pass in review.

The permanent contact of fluid secreted by the uterus determines a redness of the posterior lip chiefly, which is of no importance in itself, but which may become the germ of more dangerous alterations. These reddish spots, which sometimes extend to the vaginal mucous membrane, are disposed in groups resembling the vivid redness of herpetic inflammation, observed most frequently upon the face. In some women, they consist of small distinct points like flea-bites, and give to the mucous membrane, as M. Lisfranc observes, the appearance of the skin of a salmon trout. In other cases, the cervix uteri is the seat of a superficial ulceration which at first destroys only the mucous layer of the cervix to a greater or less extent; M. Dupuytren said, in his *Leçons Orales*, that this affection might easily be misunderstood if we contented ourselves with an exploration made with the finger, and that unless the disease were brought into view by means of the speculum, we might suppose the presence of a deep cancer of the organ. When the os tincæ and cervix are engaged in the superior portion of the instrument, we perceive a superficial ulceration on one of the lips, or upon the external face of the cervix a reddish ulceration, which looks as though it had been made with a punch, confined to the mucous membrane, and which we know not what better to compare to than to ozæna of the nasal fossæ; an ulceration, nevertheless, which finally produces the death of the patient, unless relief is afforded.

When the nature of the affection is clearly ascertained, a cure is easily obtained by local bleeding at first, particularly if the female is young and the cervix very painful; then by baths, emollient injections, and cauterization with the acid nitrate of mercury, practised in the manner we shall explain after a time. It is proper to state, however, that this operation must be repeated until the cicatrization is

complete. Doctor Jobert, in a memoir on cauterization,* states that he has seen Professor Marjolin repeat it as often as twenty different times. In such cases we have never found it necessary to repeat the operation more than five times, and most commonly two cauterizations have been sufficient.

There is another superficial lesion of the os tincæ, which has been carefully observed and described by Madame Boivin and M. Dugès. This affection, easily misunderstood if examined by the touch alone, is accompanied by a whitish discharge from the vulva, and sometimes by pruritus of the sexual organs, which may go to the extent almost of producing nymphomania. This pathological condition, designated by the term *granulation of the os tincæ*, is characterized by the presence of more or less numerous elevations on the circumference of the uterine orifice. These elevations, which the speculum alone enables us to observe accurately, are of variable form and dimensions: they are commonly numerous, of the size of a millet seed, of whitish colour, of soft consistence, of a vesicular appearance, and always without pedicles; at other times they are pediculated, as it were, few in number, red, and offer some resemblance to certain venereal vegetations; finally, there are some which present themselves in the form of small hard seeds, occupying only the extreme superficies of the organ, and others, which are pretty large, but so flat, as to be scarcely perceptible to the touch.

Though these forms of miliary and phlyctenoid eruptions may terminate without leaving any solution of continuity, their rupture often occasions small superficial ulcerations, which, by running together, sometimes end by forming a single ulcer.

Granulations of the mucous membrane of the os tincæ, as well as redness and superficial ulcerations of that organ, generally begin with the more or less acute symptoms of simple chronic metritis; such as sensation of heat and smarting at the bottom of the vagina, abundant discharge, acute pain during coïtus, and sometimes during defecation, weight at the fundament, dragging in the groins and loins, flushings of heat on the face, attacks of hysteria, etc. The application of the speculum not only enables us to discover the local lesions we have enumerated, but also a soft swelling, and a state of inflammatory congestion, marked by a deep red tint, by a sort of ecchymosis, and finally, by extreme sensibility of the parts, and oozing of blood provoked by the contact of the exploring instrument, by the operation of the touch, and by the genital act.

The treatment of granular inflammation of the cervix requires, like the preceding affections, antiphlogistics, small revulsive bleedings, narcotics, derivatives, absolute repose of the parts, and finally, cauterization with the acid-proto-nitrate of mercury. Should the affection, however, occupy the whole surface of the os tincæ, it would be proper to cauterize only a portion, lest, from determining too great an excitation, serious accidents might occur; in six or eight days the same operation should be repeated, applying the caustic only to the points which had been avoided on the first occasion.

* Journal Hebdomad. de Médecine, tom. vi. p. 137.

If the disease depended on syphilitic or scrofulous taint, etc., it should be treated by the general and local means which experience has shown most useful in combating these different diseases.

## OF CHANCRES, AND SCROFULOUS ULCERS, ETC., UPON THE OS TINCÆ.

It has been found, in a large number of cases, that the cervix uteri may be the seat of ulcers, developed primarily or consecutively, under the influence of a special predisposition, such, for instanse, as the venereal virus, or some scrofulous or herpetic affection, etc., whose principal characters we are about to lay down in a few words.

The *chancrous ulcer* of the os tincæ depending on a syphilitic cause, is rounded, its bottom is of a grayish colour, and its edges abrupt; in a word, it resembles those of the same nature developed on the glans penis. The patients feel burning and aching pains, and know not what position to assume to diminish them. There flows from the orifice of the vulva a sero-mucous fluid, commonly greenish, and so irritating that it produces an inconvenient and often painful pruritus, and even erythema of the parts with which it remains in contact. Moreover, the syphilitic chancrous ulceration is very often characterized by other primary or consecutive symptoms of venereal infection, such as blennorrhagia, pustules, vegetations, and chancres at the vulva, etc. Although the majority of practitioners assert the contrary, it is less rare than is generally supposed, and requires a local and general anti-syphilitic treatment, which should always be preceded by the use of baths, injections, and demulcent and sedative lotions and applications.

According to MM. Cullerier, Colineau and Jacquemin, ulcerations of this kind are not very apt to degenerate into cancer; what would seem to militate in favour of the opinion of these distinguished practitioners is that daily observation proves that prostitutes, though very liable to syphilitic ulcerations of the cervix uteri, do not furnish more frequent examples of cancer of the womb than women met with in ordinary practice.

There are certain simple chancrous ulcers consecutive of chronic metritis, which, though presenting nearly the appearance as those of a syphilitic nature, not only do not yield to a methodical mercurial treatment, but under its influence, even acquire increased severity. We should, in this case, at first insist chiefly upon the employment of antiphlogistics and narcotics, recurring afterwards to chlorureted injections, to astringents, and the local application of pledgets of charpie impregnated with the same solutions; should the disease resist these remedies administered successively or simultaneously, cauterization, with acid nitrate of mercury would become a resource that would conclude the treatment. We add that non-specific chancrous ulcers are generally more serious than those of syphilitic nature, and that when developed at the critical age, they have greater

tendency to be transformed into cancer than those observed in younger women.

*Scrofulous ulcers* are commonly the result of the softening of the tubercles of the cervix uteri, whose characters anterior to their period of softening and suppuration we have pointed out. Ulcerations of this nature are always preceded by the escape of a caseous matter analogous to that which is furnished by suppurating cervical ganglions; the discharge of this matter takes place through a small fistulous opening, which enlarges little by little, and soon exposes to view certain fringed, uneven and abrupt edges, circumscribing a base of a grayish red colour, which secretes a sero-caseous curdled liquid, and exhales a disagreeable odour, not, however, like that of cancer. Engorgement of the cervix and even of the body of the uterus often exists, and these parts may likewise be the seat of protuberances, easily mistaken for the result of carcinomatous degeneration, because, excepting the lancinating pains, the symptoms are nearly the same. To avoid all error on this point, it is merely necessary to recollect that tubercles, prior to suppuration, always present a fluctuation, whilst scirrhous indurations and protuberances are always very hard; at a later period, the mistake becomes altogether impossible, after the tubercles have opened and given issue to the caseiform matter; moreover, the facility with which the ulcer deterges itself, and especially the rapidity of its cicatrization, will suffice to remove every doubt that may remain in the mind of the observer.

It is not commonly until after the tubercles have been converted into ulcers, that we suspect their existence; for, before this period, their presence does not appear sensibly to modify the menstrual evacuations, nor determine, consequently, any disorder in the general functions of the organism. It sometimes, however, happens that tubercular abscesses pursue a course resembling that of phlegmonous suppuration, and that the pain resulting from them attracts the attention of the physician; the finger, in this case, carried into the vagina, perceives the fluctuation of the tubercles, which, being exposed to view by the speculum, may be opened by a bistoury plunged into their most projecting point. Should any doubt remain as to the scrofulous nature of the ulcer, the constitution of the female, her mode of life, and especially the presence of old cicatrices and engorged glands in the neck, would greatly assist in making the diagnosis more clear.

The treatment of scrofulous ulcers should at first be directed towards removing the inflammation, if any exists; watching the antiphlogistics, however, especially bleeding, because of the constitution of the patient. Recourse should then be had to astringent injections and to cauterization, the efficacy of which may be increased by the internal use of bitters, and some of the preparations of iodine, conjointly with all the hygieinic and dietetic means calculated to modify the constitution.

Before passing on to the subject of cancerous ulcers, we will add that there are sometimes found, upon the internal surface of the lips

of the cervix uteri, phlyctænæ similar to those so often observed upon the surface of the buccal mucous membrane, which, by opening, give rise to small ulcers.

## OF CARCINOMATOUS ULCERS.

*Carcinomatous ulcers* differ from ulcerated cancer in the respect that, like *noli me tangere* of the skin, they are commonly primary, or at least succeed to simple or specific ulcerations that are neglected or badly treated, and which we have already treated of; whilst, in cancer properly so called, the ulceration is always preceded by scirrhous engorgement of the subjacent parts.

When the disease has commenced as a carcinomatous ulceration, the base of which consecutively becomes hard, blood flows upon the slightest contact, the pains are superficial and slight, the patient sometimes feels a sensation of gnawing, which she cannot define, but which, being ordinarily rather agreeable than unpleasant, excites to coïtus, which generally occasions acute lancinating pain. The ulcer, the existence of which may be ascertained very early in the disease, is neither accompanied by much swelling nor by deep induration; its surface presents a grayish and seemingly inorganic layer, which is continually detached and renewed. The fluid it secretes is very viscid and readily concretes while the disease is stationary; but as soon as it begins to progress and extend to the neighbouring parts, the ichorous serosity loses in viscidity what it gains in quantity and fœtor; the base of the ulceration hardens more and more, and, soon assuming all the characters of cancer, properly so called, produces the same exhaustion of the organism, and leads as certainly to the death of the patient.

Primary carcinomatous ulcers, though they produce disorders analogous to those of ulcerated scirrhus, and require the same treatment, are much less apt to relapse when we once succeed in removing them. In fact, the induration, which forms the base of carcinomatous ulcers, is accidental and consecutive, and even seems to depend on the existence of the ulceration. The indurated layer on which they repose is sometimes so thin that it is difficult to distinguish it by dissection, while the base in consecutive ulcerated cancer is always primary and of considerable depth, which explains very clearly the much greater frequency of relapses after medical treatment or an operation.

There is no doubt, in our mind, that the pretended cancers whose cures, by means of injections and topical remedies of different kinds, have been proclaimed to the public, are nothing more than primary carcinomatous ulcers, and not true ulcerated scirrhous tumours, having all the characters of cancer, properly so called. Though we believe it possible to obtain the resolution of a consecutive induration of small extent, by the modification, and especially by the destruction of the primary ulceration which has provoked its development, we regard as impossible the prompt and lasting dispersion of an ulcerated scirrhus, whatever be the therapeutical agents employed for its cure.

It is, therefore, of the utmost importance to distinguish a carcinomatous ulcer from ulcerated cancer; these two pathological conditions are the more easily confounded, as they both present an ulceration with hardened base; the former, which is usually the largest and of the least depth, reposes on an indurated base, small in proportion to its extent, and which is always thinner than that of ulcerated cancer. To make a correct diagnosis, it is necessary, therefore, to recollect, not only the differential signs we have already established, but to take into account, likewise, the origin, progress, depth and thickness of the induration on which this kind of solution of continuity rests. We dwell no longer at present on this important point, because we shall have to revert to it when treating of the diagnosis of ulcerated cancer.

Carcinomatous ulcers require the therapeutical remedies that we proposed for engorgements and simple ulcerations; that is to say, antiphlogistics, emollient and narcotic injections, revulsive bleedings, derivatives, etc. If, notwithstanding the careful employment of these means, the symptoms should be aggravated and threaten to destroy all hope of cure, we must resort either to cauterization, especially if the cervix is not much swollen, and if the ulceration is superficial, or, lastly, to the excision of the diseased part by means of a cutting instrument, which, under these circumstances, can always cut beyond the limits of the disease. It is in this condition, more than any other, that the operation is called for, and promises the best chance of success, because the ulceration, which has been developed from without inwards, reposes upon a secondary induration of no great depth.

## OF CANCER OF THE UTERUS.

As our intention is less to concern ourselves with what relates to pathological anatomy than to trace a succinct history of each lesion in a practical point of view especially, it will be readily understood why we here refrain from adverting to the more or less ingenious, or more or less absurd opinions which both ancient and modern authors have set forth upon the nature, seat, mode of development and varieties of the different cancerous affections. As medical science remains in a state of doubt and uncertainty on this subject, we shall retain the metaphysical and eminently vicious expression cancer, to indicate in a generic manner various organic alterations, whose inherent nature is unknown to us, but which, though of varied form and appearance, constitute one and the same lesion, and have as common characters, the property of changing and disorganizing the texture of the uterus, the tendency to spread superficially and in depth, and finally, are usually beyond the resources of medicine properly so called.

The cancerous affections of the womb, as just defined, present different modifications, or forms, which may be classed in the following manner:

1. *Scirrho-cancer*, characterized by hard engorgement, and alteration of the shape of the organ, which presents protuberances,

some of them indurated, and others more or less softened, and subsequently ulcerated. This condition is accompanied by lancinating pains, by frequent hæmorrhages, especially if the disease occupy only a part of the womb, and finally, by a leucorrhœal discharge, which is either small in quantity or very abundant. This alteration of tissue, which may vary from the lardaceous and solaniform to the cartilaginous, or, in certain cases, the osseous condition, produces all the sympathetic and nervous symptoms and phenomena which depend upon the circulation, the size, and change of situation of the organ, as is the case in simple engorgements.

What particularly distinguishes the cartilaginous or osseous alteration, is the circumstance of the organ being less changed in shape than in the scirrhous or tuberous cancer, and that we do not have, as in the latter form, acute pains, or purulent and sanguine discharges from the vulva. It is likewise less dangerous, and sometimes occasions so little disturbance to the economy, that women long affected with it have been known to live to a very advanced age. Let us add that the cartilaginous or osseous degeneration of the uterus is always beyond the resources of art.

2. *Ulcerated cancer*, which is the last stage of scirrhus, is recognized by a solution of continuity, with hard inverted edges, and uneven surface of a grayish colour. The discharge, which may be simply serous, generally consists of a sanious acid, horribly fetid, sometimes watery and slightly sanguineous matter, which escapes in such abundance, that it soon impregnates the frequently renewed cloths with which the female protects herself. The ulcerated surfaces are sometimes covered with excrescences and vegetations, which may remain for a long time in the scirrhous state, but which commonly increase with great rapidity, and form soft, fungous tumours, bleeding at the slightest touch.

This form of cancer, which is the most formidable of all, and whose progress is the most rapid, is accompanied by hæmorrhages profuse in proportion to the extent of the disease and the amount of corrosion of the vessels.

3. *Fungous cancer* is that form which appears in the shape of a mushroom-like tumour whose pedicle of greater or less size is attached to the circumference of the os tincæ. The consistence of the tumour is soft and spongy, its surface is granular, uneven, and formed of a multitude of projecting globules, connected like the granules of a raspberry or cauliflower; its colour, which is violet, livid or reddish brown, approximates to that of the placenta; the least pressure upon it determines a considerable discharge of black blood, an almost constant exudation of which, moreover, is mingled with that of a reddish, ichorous serosity of most disgusting fetor. In this condition it is easy with the finger to detach portions of soft, brown and very friable vegetations; one circumstance we may note here is, that women generally complain to the last physician they consult, of the brutality of the first who attended them, and who, according to their statement, made the examination with so little care, as to cause abundant bleeding.

The fungous cancer, called by M. Duparcque *mural* cancer, presents itself sometimes in the form of a non-pediculated fungus, having on its surface a number of smooth globules, equal, of soft consistence, vesiculous appearance, and accumulated in masses around the os tincæ. These globular granules, which resemble gooseberries, (*ribes uva crispa*,) secrete a serous liquid, which is so abundant at times, as to pass through the mattrasses during the night, and compel the patient to change her cloths twenty or thirty times a day. Moreover, the fluid secreted by this grape-like fungus is almost colourless and inodorous. M. Dugès has published several cases of this second variety of uterine fungus; an example of which we ourselves saw in 1833, in the wife of a water-carrier, whom we advised to enter the hospital of *La Pitiè*, in M. Lisfranc's wards, where she probably died. These two varieties of fungous cancer, and especially the latter, are not only the least painful, but are those also which offer the best chance of cure.

The *hæmatode cancer* (bloody cancer of M. Duparcque), hæmatoma of Hooper, and spongoid inflammation of Burns, although possessing very marked differential signs, had not been clearly separated from the other forms of cancer, before the works of MM. Hooper,* Duparcque,† and Dugès‡ appeared. As M. Duparcque is the first French author who has well described this variety of cancerous alteration, we shall quote its principal characters from that excellent practitioner: "We recognize this form of cancer by the enlargement of the uterus without deformity, and especially of its neck, where it is most commonly seated; by the remarkable softness of its tissue, by the sensation of crepitation felt in touching it; by the constant discharge of black and grumous blood, mixed with clots, and by the oozing of an analogous fluid, coming from the whole surface of the tumour, as though it were squeezed like a sponge. At a very advanced period of the disease, there are mixed with the blood certain putrid filaments, and fetid matters resulting from the detritus and decomposition of the altered tissue, a decomposition which generally extends from the centre to the circumference, like ramollissement, or, in other words, which commences towards the mouth, and extends from thence both to the neck and body of the womb. This produces a seemingly ulcerous excavation, and the disease then assumes the form of ulcerated cancer." We add that the tumour is of a brownish-red colour, and its surface, which appears smooth to the eye, is always covered with lamina of clotted blood, and feels slightly uneven when touched. It is probable, says M. Duparcque, that the very marked sensation of crepitation which is felt, depends upon the displacement of the semi-coagulated blood, which infiltrates the diseased tissue.

What particularly serves to distinguish the bloody from fungous cancer is, that the latter is supported by a pedicle fixed upon the neck of the uterus, and never passing beyond it, while the tumour

* The Morbid Anatomy of the Human Uterus, 1832.
† Traité des alterations organ. de la matrice, p. 395.
‡ Traité des maladies de l'uterus, tom. ii. p. 180.

of sanguine cancer is without any pedicle, spreads to the body of the viscus even, and has a strong tendency to extend in depth. This distinction, which is of little importance in the medical part of the treatment, is of very great importance for the surgical treatment. Effectively we may hope much from the excision of a fungous cancer, when seated upon an organ whose tissues, perhaps, are healthy, while the same operation could only hasten the death of the patient, or even immediately determine its occurrence, were it performed with a view of destroying a sanguine cancer, which extends more or less to the body of the womb. The only operation that ought to be attempted in such a case as this is cauterization, by means of the actual cautery, as we have seen it done by the celebrated Baron Larrey.

5. The *Encephaloid* or *Medullary Cancer* is characterized by a tumour of variable size, whose external surface is divided into more or less projecting lobes, containing a cerebriform substance of dull white colour, and of moderate consistence at first, but afterwards becoming pulpy and liquid, like thick pap. This substance may exist in small encysted masses, or in small lobes which are not encysted, but separated by fissures, less deep and regular than those of the encysted encephaloid masses; finally, the cerebriform matter may be contained in masses not circumscribed, but it is infiltrated, as it were, in the tissue of the organ. This form of cancer, which often exists in different parts of the economy at the same time, and which sometimes follows tubercular degeneration, is accompanied by a puriform, ichorous, and very fetid discharge, bringing along with it softened fragments of the uterine tissue, whose separation gives rise to profuse hæmorrhages.

The various pathological degenerations, just described by us, as so many forms which uterine cancer may assume, are sometimes found united, wholly or partially, in the same uterus, and constitute in that case, the *mixed cancer*, met with particularly at an advanced period of this frightful disease.

We have not desired to make different species of the varieties and forms which we have just described, as starting from the same point, but merely to present the same disease under all its different aspects and modifications, without destroying that pathological unity which it ought to retain in theory and practice.

The *causes* of cancer are numerous and varied; they have a more or less direct action upon the production of the disease; some of them are general or predisposing, others determining or local.

Amongst the predisposing causes are hereditary predisposition, age, constitution, and mode and habits of life.

Though in the present state of the science it seems difficult to admit of a cancerous virus transmissible by generation, it is yet incontestable that cancer in many cases appears to be hereditary, that is to say, persons born of parents dying of a cancerous affection are very much disposed to contract the same disease. We could cite many authentic facts in support of this opinion, particularly in relation to cancer of the uterus, which is more disposed than any other organ to carcinomatous degenerations, probably from the nature of its func-

tions, from its close and compact structure, and especially the great abundance of fibro-cellular* tissue with which it is supplied, particularly about the cervix.

Cancer may develop itself at any period of life, but it is very rare for that of the uterus to make its appearance earlier than at twenty-five years: nevertheless, we have observed, and writers have reported several examples of uterine cancer even before twenty years of age. From the statistical researches we have been enabled to make in hospitals, from our own particular practice, and especially from the works published upon this subject, we have found, by following the order of frequency, that this frightful malady appears most commonly at the age of from forty to forty-five years, then from thirty to forty, from forty-five to fifty, from twenty-five to thirty, from fifteen to twenty, from fifty to sixty, and finally, from sixty to seventy. It may be seen from this table that cancerous affections of the uterus are the more frequent in proportion as that organ is in a greater state of activity, and where it begins to pass into the physiological inertia of the critical age.

Badly regulated women; those who have some anomaly of the menstrual function; those who are nervous, irritable, sensitive, or subject to the more vivid emotions; those of an erotic temperament, and who, constantly tormented by venereal desires, give themselves up with excess to masturbation or venery; those who pass their lives in crowded parties, and the tumult of fashionable society; those in whom an habitual leucorrhœa, cutaneous eruptions, neuralgic or rheumatismal pains have suddenly ceased; finally, women who inhabit large cities, and particularly those who have borne many children, or had numerous abortions, or frequent attacks of metrorrhagia, are more subject than others to cancerous affections of the womb. We should also range amongst the predisposing causes to these lesions, celibacy, sterility, violent grief, frequent paroxysms of anger, and all the strong passions; we must confess, however; that circumstances diametrically opposed do not prevent the development of the disease, which may show itself under the influence of causes inappreciable, but inherent in the constitution of some persons.

The *occasional causes* of uterine cancer are all those whose action may give rise to metritis. Such are criminal attempts to produce abortion; the presence of a foreign body in the vagina; disproportion between the genital organs of married people, and the contusions which may result from this cause; venereal enjoyments before puberty, at the epoch of the physiological revolution, and after the critical age; the presence of cellulo-vascular polypi upon the os tincæ or in the interior of the cervix uteri; and finally, all causes capable of producing inflammatory and congestive engorgements, which it is useless to recapitulate.

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* Professor Cruveilhier has proved, by a vast number of interesting observations and researches, printed in the *Bibliothéque Médicale*, that the fibro-cellular tissue is the organic element chiefly affected in cancer, and that this degeneration seems to have a peculiar predilection for those organs into whose composition a large quantity of this tissue enters. Such are particularly the uterus, the mammæ, the testicles, and all the glands, etc.

Whatever may be the origin and causes of cancerous degeneration of the womb, the first symptoms of the disease generally escape the attention of the physician, who is very rarely consulted until extensive disorder already exists Moreover, the derangements which women experience at the beginning are so slight, that they themselves pay no attention to them, and it may happen also that the disease shall attain a very advanced stage without any precursory symptom to cause its presence to be suspected. There are, in fact, young, fresh and brilliant women, appearing to have all the attributes of perfect health, in whom cancer has taken deep root, and in whom the uterus is reduced to the state of a putrid slough presenting a mere fetid cloaca. We have seen cases of this kind, and several modern authors, among others MM. Lisfranc, Récamier, Pauly, Téalier, etc., have published examples of them.

In general, the first symptoms that make their appearance, are derangements of the menstruation; augmentation; diminution or transient suppression of the menstruæ; their frequent and irregular return; a leucorrhœal discharge mixed with sanguineous striæ, and having a redder tint after coïtus; sensation of pressure on the anus, and weight in the hypogastrium, dragging in the loins and lumbar regions, a sort of vesical tenesmus and painful sensation during the expulsion of the urine and during defecation. Some women experience a sort of voluptuous pruritus in the genital parts, especially at the vulva, which inclines them to coïtus and illicit manœuvres; the conjugal act generally, but not always, causes more or less acute pain; to these symptoms are added acute and transient pains in different parts of the body, especially in the breasts, which become firmer and larger; the patients experience alterations of tension and retraction of the abdominal walls; attacks of hysteria; unusual melancholy; extreme disgust for food; strange longing, and finally, a general uneasiness which cannot be accounted for, until all doubts are removed as to the existence of the disease.

When such phenomena as these make their appearance, and especially when they last beyond the period of transient irritations, it is of the greatest importance to examine the sexual organs to convince ourselves as to the nature of the evil; the least delay would expose the patient to irremediable danger, and might compromise the honour of our art and the reputation of the physician.

In the first stage of the disease, the os tincæ is found, upon examination, hard, tumefied, warm, painful and sometimes softened, and uneven at different points; the posterior lip is always more projecting and more voluminous than the anterior; the mouth of the uterus is partially open and irregular; the finger, especially its extremity, when withdrawn from the vagina, is commonly covered with bloody mucus, like that provoked by copulation. It is often difficult to distinguish commencing cancer from subacute metritis with simple induration; when of scirrhous nature, however, the neck of the uterus is less regular in its form, generally softer, less sensible and larger than usual. The engorgement is then more cir-

cumscribed, and rarely extends to the body of the organ, as in simple engorgements.

Instead of following a progressive course, it sometimes happens that cancer in the first stage remains stationary, until some inappreciable cause, by communicating to it a new impulse, hastens its progress. The first doubts as to the diagnosis soon cease altogether. The disease makes rapid progress, and new symptoms make their appearance. The pain becomes pungent, the losses of blood more frequent, and the vaginal discharges more abundant. The Touch at this second period, in connection with the exploration by the speculum, shows the uterus to have acquired the weight and dimensions which it possesses at the second month of pregnancy. The orifice of the neck resembles a hard, knobbed and uneven ring, more or less red, and covered with a sanguineous mucous fluid, or is even bathed in pure blood. If the entire organ be implicated, the rectal and hypogastric examination commonly enables us to distinguish the extent of the tumour and the rounded inequalities which project more and more from its surface. When the degeneration is encephaloid, we see the cancerous diathesis promptly manifested by softening and ulceration of the tumour, and by the rapid growth of the disease in extent and depth. The pains which are then almost constant are often dull and gnawing, but always accompanied by acute shootings, which the patients compare to a flash of fire, or to the pricking of a needle or a penknife. Generally, they concentrate upon the uterus whence they extend to the ligaments of the organ. The body of the uterus, which becomes more and more hypertrophied in consequence of the extension of the disease, causes compression of the vessels and nerves of the pelvis, and then becomes one of the chief causes of the deep-seated lancinating pains which are felt in the hips, thighs and loins, in the direction of the sciatic nerve and its branches. Sometimes the pains seem no longer to arise in the pelvis, but extending in various directions, they become so acute in the different articulations of the inferior extremities, as to simulate rheumatism more or less accurately. The functions of the neighbouring organs become impaired ; the constipation is obstinate, the desire to urinate continual, and finally the uterine hæmorrhages augment in frequency and often become permanent, when the scirrhous tumour has ulcerated, or when fungosities, vegetations, and especially true fungous hæmatodes have been developed on the cervix.

In the third stage, the primary cancerous ulceration, or that preceded by scirrhous engorgement, is bounded by edges which are indurated, torn, bleeding, and unequally inverted on the exterior circumference of the cervix uteri. The bottom of this orifice is soon found changed into a kind of putrid slough, which the finger readily penetrates, and whence flows a characteristic ichorous and sanguineous matter, that corrodes the thighs, is of disgusting odour, and so horribly fetid as to persist a long time after the touch, in spite of repeated washings with soap or chlorinated water. From the bottom and whole surface of the ulceration, bleeding granulations and fungous vegetations, of which we have already spoken, often arise.

As the disease now makes rapid progress, the walls of the cervix may soon be eaten away, and reduced to the state of a slough; the disorganization often extends to the body of the organ, which is sometimes perforated, so as to establish a communication with the peritoneal cavity; it may, also, in some cases, be propagated to the neighbouring organs, the bladder, for instance, the rectum, the vagina; and even the exterior parts of generation have been known to be included in this focus of destruction, and to form a hideous cloaca where the urine and the fœcal matter mingle with the cancerous matter; sometimes portions of softened flesh, and clots of black and putrified blood detach themselves from the cancerous fungosities, whence also flow ichorous, sanguineous and blackish matters, or matter resembling wine lees. Then come on hæmorrhages whose abundance so rapidly exhausts the forces, and often cause the death of the patient some months before the period when it would have taken place, without this accident. When the suffering is slight, women retain a certain degree of embonpoint and freshness, but generally the pains are so agonizing as to render life insupportable, and their exaggeration may cause death in a few days, as MM. Bayle, and Cayol,* Téalier,† and other authors have stated, with cases in point.

Beside these local symptoms, we must mention the phenomena of cachexia or general alteration of the organism which constitute the most unfortunate effect and last stage of the cancerous diathesis.

When women reach this frightful period of the disease, they present the most heart-rending picture of human misery; in fact, the functions of assimilation are exhausted; appetite is gone, digestion is deranged in a thousand ways; emaciation, more or less rapid, sometimes passes into marasmus; the osseous system participating in the disease, becomes friable, fragile and breaks of itself, as it were. The skin, which is dry, swollen, wrinkled, and adherent to the bones, assumes the dull white colour of wax, or the yellow straw colour which characterizes cancerous affections; the attitude has a peculiar character in this pathological condition; the sad and drooping expression bears the impress of suffering and depression; the eyes sunken in their orbits, the livid and singularly contracted lips, the fuliginous teeth, the drawn, hippocratic face, furrowed with deep wrinkles, give to the patient the aspect of a corpse: finally, colliquative diarrhœa, symptomatic of intestinal ulcerations, vomiting, œdema of the inferior extremities, dropsy, hectic fever, insomnia, intolerable sufferings, profuse hæmorrhages, despair and death come to complete this sad and afflicting scene.

The *progress of cancer* varies according to its kind and the epoch at which has been developed the organic modification which predisposes to scirrhous and encephaloid degeneration, fundamental alterations for the greater number of cancerous affections. If the disease begin with the scirrhous state, it may remain indolent and stationary for a long time, and softening of the tumours may occur, with great slowness, so that sometimes females are not prevented from reaching

* Dictionnaire des Sciences Med., art. *Cancer.*
† Du cancer de la Matrice, p. 111, 1836.

very advanced old age. Rapid ulceration of cancer produces the most serious disorders in a short time, and a few months may suffice to bring it to its last stage; nevertheless, this unhappy termination has been known not to occur until after several years; it is probable that the difference depends on the multiplicity and intensity of the predisposing causes, as, for example, the temperament of the patients, their sensibility, and particularly the kind of treatment. Death often occurs, either after a terrific hæmorrhage or after sanguine losses in small quantity but too frequently repeated, after peritonitis, violent convulsions, pneumonia, or other affections, which are frequent complications of uterine cancer. We should add, that the disease generally makes more rapid progress in proportion as the female is younger, and that though in some cases ulceration seems to stay its progress, and afford some consolation to the patient and hope to the physician; this happy change, which is always ephemeral, does not long justify the advantages which had been thought to be derived from the therapeutical means put in practice. The patient, who had been relieved at first by a palliative treatment, is soon discouraged; she changes her physician, essays the strongest remedies, and in her despair applies to old women, to charlatans, to magnetizers, to homœopaths, who in turn promise her a speedy and *radical* cure, but who only hasten on the fatal event.

While the *diagnosis* of cancer of the womb is not generally obscure in the latter periods of the disease, all authors agree in the opinion, that it is quite otherwise in the beginning. Effectively, in chronic metritis with simple induration, the cervix uteri, as in scirrhous engorgement, is larger and harder than in the normal state; the surface of the tumour may be at first smooth and polished in both cases, and finally the pain may be wanting, it may be slight, or even lancinating, in cases of simple induration as in those of scirrhous induration, or commencing cancer. M. Lisfranc, whose experience is very great, and whose opinions are of so much importance in this matter, published in the *Gazette Médicale*, the following differential signs.

1. Simple engorgement is softer, and its surface is more even to the touch than scirrhus, which presents prominences and inequalities.

2. In scirrhus, the mucous membrane of the neck is of a dull white colour, which, according to this celebrated practitioner, is not the case in simple engorgement.

3. Scirrhus is developed more slowly; for example, when an engorgement dates from one or two months only, and especially when it follows abortion, ordinary labour, or sudden suppression of the menstruæ, we infer, says M. Lisfranc, that it is not of a scirrhous nature.

4. Finally, simple engorgement requires a treatment of a month or six weeks, whilst scirrhus is much longer in recovering. We will add to the characters of scirrhus mentioned by the able surgeon of La Pitiè, that engorgement is generally less sensible, less active, and more circumscribed than simple induration; we shall also add, that its formation is not accompanied by such marked symptoms, nor

does it produce at the outset such troublesome symptoms or such well-marked general phenomena. Finally, let us say that, under the influence of bleeding, strict diet, repose, antiphlogistics and resolvents, simple engorgement of the uterus usually diminishes with great rapidity, which never occurs in scirrhous degeneration, even at the beginning.

When induration of the cervix does not present the characteristic signs of scirrhus in a marked degree, we should infer the absence of this alteration, and act as though we had positively ascertained a simple hard engorgement, that is to say, we should resort with method and perseverance to the various therapeutical means of which we spoke under the head of chronic metritis and induration.

We shall be able to distinguish scirrhus from polypus of the uterus if we reflect that the latter tumours are altogether insensible, that they are isolated from the os uteri and present a smooth surface, a peculiar elasticity, and an oval, regular and pediculated shape, while scirrhous indurations are adherent, uneven, irregular, more or less sensible, hard to the touch, and of almost stony consistence. Fibrous tumours, developed in the thickness of the walls of the cervix uteri, are also recognized by their firmness, insensibility, and considerable size; and by their rounded and not lobular form. It should never be forgotten, moreover, that the cervix uteri is susceptible of considerable elongation, which we have spoken of before; that the os tincæ, which varies considerably as to size in the normal state, is in some women hypertrophied without being diseased at all; and, lastly, that labour often causes protuberances and fissures of its tissue which are easily distinguished from cancerous tumours.

As we gave, under the head of carcinomatous ulcers, their differential diagnosis, we deem it unnecessary to revert to this subject, and we shall also pass by in silence, the characteristic symptoms of different lesions, among others the cellulo-vascular polypus, which we described in another part of the work, and pointed out as having some symptoms analogous to those of cancer of the cervix uteri.

*The prognosis of uterine cancer* is always unfavourable; for it is the peculiar property of this disease to disorganize and destroy, more or less rapidly, not only the part in which it is seated, but likewise, step by step, those which lie near it. Nevertheless, when the os tincæ alone is implicated, especially if the cancer be the result of a degenerated primary ulcer, the prognosis is less unfavourable, and the disease offers some chance of cure; we ought, on the contrary, no matter what be its origin, form and mode of development, to regard it as almost certainly fatal, when it passes beyond the cervix uteri and extends to the body of the organ. It is, therefore, of the utmost importance to attack cancer at its very commencement, and never to lose sight of the excellent advice given by Doctor Miller,* when he said: "any prolonged derangement of the genital organs of the female or of their functions; any inconvenience which exists; any suffering, even slight, which is repeated, should arouse the atten-

* Memoirs de l'Acad. de Méd., tom. ii., p. 333. 1832.

tion of the physician and demand examination; unfortunately, women rarely demand the assistance of medicine, at the first appearance of the symptoms, or rather they refuse to submit themselves to any kind of exploration! they trust to nature the care of their cure; but, vain hope! they are ever deceived in their expectations.

## TREATMENT OF CANCER OF THE WOMB.

All the efforts of the physician should have as their object not merely to arrest the first steps of the disease and crush it at its origin, but also to prevent its return by the most attentive care, and by removing all causes which tend to reproduce or keep it up. There is no doubt that the primary source of cancer of the womb is chronic inflammation of that organ. To cure this affection, and thus dispel the irritation which maintains the engorgement, is most commonly to prevent uterine cancer, and consequently save the women from the most frightful of diseases. As we have already dilated at length upon the treatment of chronic metritis, and the different engorgements which it may occasion, we deem it unnecessary to revert to this subject here.

The basis for the treatment of a commencing cancer, is just the same as that for primary engorgements of the uterus, or for the ulcerations which may be their cause or effect. Thus, to diminish the pain and arrest the progress of the disease, we should have recourse to revulsive bleedings, to exutories, and to a soothing regimen; we should prescribe a milk diet, white meats, repose, baths, emollient narcotic and astringent injections, enemata and poultices of the same nature, and the other different therapeutical agents which we have already mentioned.

*The diet.* We should commence by depriving the patient of one-fourth of her ordinary aliment, then of a third, and finally of the half, if her constitution permits; for there are some women who support rigid diet with the greatest difficulty. The dishes that ought to be allowed are white meats, fish, herbaceous and vegetable substances, feculent substances prepared with much dilution, preparations of milk, and cooked fruits or very ripe un-cooked fruits. Spirituous and aromatic drinks must be positively forbidden; water, slightly reddened with wine, may be allowed during the repasts, but at other times the use of emollient drinks must be continued. We add that the diminution of the aliment or the *cura famis* is one of the most important elements in the treatment of cancer.

*Bleeding* should be employed when the female is young and plethoric, when the pulse is full, and especially when there exists a fluxionary movement towards the uterus. Bleeding from the arm acts not only by diminishing the mass of the blood, but also by creating a revulsion, which carries the blood towards the supra-diaphragmatic regions. It should amount, generally, to half a palette,* a palette and a half, or two palettes at most, according to the strength

* A palette contains four ounces.—*Trans.*

and constitution of the patient. It ought never to be employed except about eight days before or after the epoch of the menstruæ, and should be repeated less frequently when the disease is already of long standing. The methodical use of general bleeding, the advantages of which in the treatment of cancerous affections and inflammations of the uterus are incontestable, dates from the era of Hippocrates: this principle, which has become a fundamental one in medical science, and which was followed also by Galen, Paré, Valsalva, Morgagni, Heister, Ledron, Fearon, and Hufeland, is justly recommended by all modern authors, and particularly by M. Lisfranc.

After the revulsive or depletory general bleedings, conjointly with other antiphlogistic remedies, have dissipated the inflammatory symptoms and the local pain, several practitioners, among others M. Duparcque, Miller and Téallier, recommend applications of leeches to the os tincæ, which is exposed by means of the speculum of M. Récamier. The latter plan, which we have seen employed with advantage on several occasions in simple engorgement with or without induration of the neck, should be applied in the following manner: when the womb is in a state of procidentia, it is sufficient to separate the labia majora in order to expose the os tincæ: if the uterus, on the contrary, is situated more deeply, the cylindrical speculum must be used; from six to fifteen leeches must be introduced through it up to the cervix, and retained upon it either with a plug of linen, or with a sort of hollow central piece six or eight lines in depth. With this instrument, which is lined with a piece of transparent gauze, and fastened at the bottom by a shank with a handle bent at an obtuse angle, we can readily keep the leeches in their places, while they are prevented from moving about and attaching themselves elsewhere than on the neck, from being unable to create a vacuum on the tissue of the gauze, which makes it impossible for them to fasten themselves upon it, as they often do in the parietes of the speculum. To render their application still more convenient, we should be careful to remove with a small sponge or fine pencil of charpie, the mucus upon the surface of the neck, and then wash them away by means of repeated injections. Ten or fifteen minutes suffice to fill the leeches, which are then to be removed, as they fall off, by forceps. The discharge of blood ought to be encouraged by warm injections, which at the same time remove the clots of blood. If the hæmorrhage prove too abundant, it may be arrested by plugging the vagina.

Without entirely rejecting the application of leeches to the cervix uteri, we believe with M. Lisfranc, that it often has the inconvenience of increasing the congestion of the organ, and we think it should never be resorted to after induration of the neck has assumed the scirrhous character, because, in this condition, as we have several times seen happen, each puncture may be converted into so many cancerous ulcerations. We also regard as almost always hurtful in the treatment of cancer, leeches applied to the anus, the vulva, groins, and around the pelvis; for, excepting in some particular cases, they augment the congestion of the uterus, and all the disorders dependent

upon it. Simple and emollient general baths, heated as moderately as possible, yet prepared in such a way that the patient shall not feel chilled, are an excellent means for diminishing the nervous erythism and pain which accompany affections of the uterus; the duration of the bath should be at least one hour, and at most six hours, and they may be renewed every day, or every two days, according to the strength, habits and constitution of the patient. The heat of the water should be maintained at an equal temperature; we must be careful not to prescribe this excellent therapeutical means for women in whom it produces oppression, uneasiness, or different nervous symptoms.

*Hip-baths* ought to be forbidden, as they always determine uterine congestion, and, as a consequence, more or less acute pains.

The *injections* must be emollient sometimes, at others narcotic or discutient, according to the indications; they should be at a temperature of fifteen or twenty degrees of Reaumur, and are used not only with the view of cleansing the cancerous ulcers, but also of contributing to the resolution of the scirrhous indurations of the neck of the uterus. As they sometimes act like true douches, it is necessary to moderate their discutient and often too exciting action, by throwing the liquid with more or less force, according to the effect we seek and the results we may already have obtained from their employment. These injections, which are especially useful in chronic and indolent indurations, ought to be made with a syringe, having a curved gum-elastic canula, previously oiled.

*Irrigations* or prolonged injections, as well as douches, are still more powerful means for effecting the resolution of hard and indolent engorgements. They are simple or medicated, according to the nature of the liquid, the temperature of which ought to be nearly cold. The former are composed of infusions of aromatic plants, or of saline or sulphurous solutions, according to the indications. We prepared in the year 1828, a very simple apparatus for administering continuous irrigations or douches. The apparatus consists of a kind of trestle with three legs, three meters high, in the middle of which is suspended a wooden pail communicating with a flexible tube terminated by a gum-elastic tube introduced into the vulva. The force of the jet is in proportion to the elevation of the vase and the quantity of fluid allowed to escape. When we desire to use irrigations and not the douche, the force of impulsion of the water is lessened by means of a small sponge placed at the extremity of the canula introduced into the vulva. The liquid with which the sponge is impregnated then flows drop by drop into the vagina, whence it escapes to fall into a tin basin, placed under the hips of the patient, at the centre of an opening formed in the mattrass. A second flexible tube is adapted to the hollow handle of the basin which is in the bed, and conveys the fluid as it is received into another vessel placed on the floor. We can in this way, and without wetting the woman, administer irrigations for as long a time as we desire; when we think proper to arrest the flow of the liquid, the apparatus is withdrawn, and the opening in the mattrass filled up by the separated

portion of this last, which fits perfectly. In cases of vaginal fistula, with incontinence of urine, a mattrass and basin disposed as we have just described, present advantages which it is useless to dwell upon. M. Charrière, a distinguished manufacturer of surgical instruments, has invented a sort of pump-syringe, which shows great ingenuity, and may serve to administer douches and irrigations; but it obliges the patient or some other person to work the piston during the time that the fluid is running.

*Compression*, which that able practitioner, M. Récamier, has proposed as a method of treatment for cancerous tumours, is a means which, although very useful in a number of other cases, particularly in indurated tumours of the breast, does not seem to offer the same advantages in scirrhous indurations of the uterus, either because of the situation of the organ, which renders its employment difficult, or because of the inflammation and pain which it almost always causes in the vagina, bladder and uterus. It is always necessary, therefore, to refrain from its use unless the tumour is entirely indolent, and if it be the seat of the least irritation. The mode in which it is used is simply to employ a cup and ball pessary, in which the cervix uteri lodges itself, and is compressed by the weight of the organ, and that of the abdominal viscera.

Absolute *repose* and a dorsal decubitus are the more useful, because, without them, all other means are nearly powerless. We should request the patient, therefore, to confine herself to bed, which ought to be hard and made of hair mattrasses. But, as rest in bed has the inconvenience of producing congestions of the pelvis, and even excitement of the genital organs, it is necessary, agreeably to the advice of M. Lisfranc, to recommend, during the day, either a pallet or a mattrass, thrown upon the floor or on a table.

*Narcotics* are likewise administered for the purpose of diminishing the pain and stimulus which give rise to the uterine congestion. They are prescribed in the form of injections made of decoctions of poppy-heads, of morel, of hyoscyamus, of cicuta, of potato-tops, etc., in small enemata, with addition of from eight to fifteen drops of laudanum; and internally, in the form of pills or antispasmodic draughts. We may add to these remedies, the internal use of resolvents, such as tincture of iodine, from which M. Hahnemann says he derived great benefit in a case of cancer of the uterus, which had reached a high degree of intensity; lime-water, administered by M. Kempel,* in the dose of from one to three ounces, in a cup of milk; ergot, which has an altogether special action upon the uterus,† the extract of cicuta,‡

* Revue Médicale; aout 1825.

† Ergot advantageously employed, in the pillular form, in the dose of from two to ten grains daily, in cases of hæmorrhagic engorgement, has likewise been used with great success, in cases of engorgement of the os tincæ with ulcerations, first by Doctor Pauly, then by M. Malgaigne, Vigny, and by ourself, who, like those practitioners, have prescribed it several times in combination with gummy extract of opium, in very small doses, the sixth or quarter of a grain in each pill. M. Lesuerre, pharmaceutist, at No. 71 *Rue de la Harpe*, prepares, under the direction of Doctor Pauly, a syrup of this substance, one tablespoonful of which contains two grains and a half of ergot, and one-twelfth of a grain of extract of opium. The ordinary dose of syrup is two spoonfuls per diem.

‡ The extract of cicuta, whose marvellous effects have been recounted by Storck,

and the cherry-laurel water, employed by MM. Osiander and Carron du Villards. Finally, it might be useful to employ, at the same time, revellents, as sulphurous douches, like the stream from a watering-pot, and derivatives, such as cauteries, moxas and blisters applied to the sacrum, groins, loins and internal surface of the thighs. External resolvents are likewise recommended, amongst others, frictions to the regions just indicated, and especially to the hypogaster, with mercurial ointment, or with the ointment of hydriodate of potash, which have also been used with advantage in cancerous ulcers, by Doctor Ulmann, of Marburg;* and finally, frictions beneath the tongue and to the internal surface of the labia majora, with the oxide of gold, from which M. Chretien† asserts that he has obtained wonderful effects.

If all these means combined, fail to arrest the disease, or prevent the softening and ulceration of the cancer, or the extension of a primitive carcinoma, the disease is incurable by medicine, properly so called, alone, and henceforth the mission of the physician consists less in attempting to cure the disease than in trying to arrest its progress, to alleviate suffering and prolong life. The only means which remain must be drawn from surgery, and consist of cauterization, and of the partial or total ablation of the organ.

To fulfil his duty properly the physician should employ, not only all the resources which may be at his disposal, but he should endeavour also to console and encourage his patient, to raise her hopes, and decide her as soon as possible to submit to the operations which he may deem necessary, and which offer some chance of success.

The medical treatment will now be merely palliative and symptomatic. We should resort, at this period, to narcotic injections, made with decoctions of morel or hyoscyamus, in union with some emollient liquid. We may resort, also, to injections of cherry laurel, to continuous irrigations simply emollient, or mixed with the decoctions of the plants we have just mentioned, to prolonged baths, to enemata, and to vaginal poultices made of the pulp of the pumpkin, or of grated or boiled carrots, and rendered narcotic by concentrated decoctions of poppy-heads, of belladonna leaves, of morel, of cicuta, etc.‡ Fomentations of the same nature, frictions to the hypogastrium with Rousseau's laudanum, or with the oil of hyoscyamus, may likewise be employed.

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and the efficacy of which, in the treatment of cancer, M. Récamier speaks of having often witnessed, has always appeared to us to have but little effect, and to produce no advantageous result. We have found, on the contrary, that cicuta commonly deranges the digestive functions, and determines more or less severe headaches. MM. Marjolin, Dugès, Pauly, and some other physicians have remarked the same thing. This may possibly depend on the faulty mode in which the extract of cicuta is prepared by most pharmaceutists.

* *Gazette de Santé*, Sept. 5th, 1823, and May 25th, 1824. Doctor Ulmann has likewise employed the hydriodate of potash by injection.

† De la méthode Jatraleptique, p. 318.

‡ To employ the vaginal poultices, and prevent their solid materials from escaping and collecting in the vagina, we observe the precaution of retaining them in that cavity by means of a small gauze bag, the tissue of which is sufficiently close. In this way they are introduced and withdrawn with the greatest facility. The bag is first introduced into the vagina with the nozzle of the syringe, which serves to inject the liquid poultice.

The insomnia should be treated by the internal use of gummy extract of opium, in doses of half a grain, gradually increased to four grains. The small enemata of water or milk, as advised by Morgagni,* with addition of a grain of gummy extract of opium, or several drops of laudanum, generally procure great relief. Blisters sprinkled with one or two grains of muriate of morphia, and applied to the lumbar region and internal part of the thighs, are commonly very useful, and have not the disadvantage of constipating the patient. The same is true as to the suppositories of *beurre de cacao*, which we prescribe every evening, and direct to be made of a drachm of cocoa and a quarter of a grain or a grain of acetate of morphia. We might likewise, in order to calm the pain, add to each injection five or six drops of phosphoric acid; we should mention, however, that the plan recommended by M. Alibert,† has failed in our hands.

The infectious odour exhaled from carcinomatous ulcers, which fatigues the patients as much as the persons who attend them, may be partly neutralized by means of chloruretted injections and lotions, and also by soot-water and the solution of creosote injected into the vagina. These different means have not the advantage merely of destroying the disgusting odour of the discharge, but of calming the violence of the pain, of diminishing the quantity of the secretions, and even of staying the progress of the disease.

To moderate the profuse serous discharges and hæmorrhages which rapidly weaken the patient, we should resort to the internal employment of some astringents, such, for example, as the water of Robel, (a mixture of sulphuric acid one part, and alcohol three parts,) in the dose of half a drachm or a drachm in a draught; to extract and tisan of rhatany, and to lemonade made with citric acid and with syrup of quinces or comfrey. We may also employ, in some cases, but with more care, cold astringent injections, made with decoctions of oak bark, of bistort, of Goulard's lotion, or with very weak solutions of sulphate of alum or of zinc, etc. We ought to mention that, though the astringent injections often arrest the bleedings, they have the serious inconvenience of irritating the ulcerations and hastening their progress.

The plugging of the vagina is a means which, in this case, may be very useful, but it always causes acute pain, unless, as M. Lisfranc recommends, we observe the precaution of plugging the inferior portion only; finally, small revulsive bleedings and applications of cups and leeches under the breasts are remedies which it is well not to reject.

The constipation determined by the internal use of narcotics, may be opposed by mild laxatives, especially by decoctions of tamarinds and prunes, by enemata of honey, with addition of a tablespoonful of olive oil, and finally, by suppositories of *beurre de cacao*, used morning and evening. If vomiting supervene, we should prescribe Seltzer water, Riverius's draught, and sub-nitrate of bismuth, etc.; finally, we must relieve retention of urine by means of catheterism.

† De Sedib. et caus. morb., epist. 47, art. 25, 1660.
‡ Eléments de Thérapeutique.

Such are nearly all the means which, in these disastrous cases, present themselves to the physician for relieving the sufferings and prolonging the lives of his patients.

## SURGICAL TREATMENT OF CANCER.

When the cancerous affection is well marked, when there remains some doubt even as to its true nature, if the disease has advanced in spite of the methodical employment of the therapeutical resources we have described, we ought to resort, as early as possible, to the means offered us by surgery, that is to say, to cauterization or to the excision of the affected part.

The *cauterization* of simple or cancerous ulcerations of the cervix uteri, was first brought into repute in France, by M. Récamier, and after him, by Dupuytren, M. Lisfranc, and several other practitioners. This energetic and often efficacious means is useful, not only in changing the mode of vitality and the sensibility of simple ulcers which resist ordinary treatment, but also in destroying fungous vegetations and cancerous or carcinomatous ulcerations, having but little depth or surface. As a general rule, we should defer its employment as long as there exists acute inflammation, or considerable tumefaction of the cervix. It is necessary to reject it altogether, even when we are uncertain of reaching the limits of the disease. It is equally contra-indicated, during the four or five days which precede the menstruæ, during their presence, and for three or four days after their cessation.

Though Baron Larrey seems to have employed the iron heated to redness* with advantage, the powerful caustics are generally preferred, such as solid nitrate of silver, caustic potash, arsenical paste, chloride of antimony, the sulphuric and nitric acids, concentrated nitro-muriatic acid holding in solution sixteen grains of chloride of gold or platinum to the ounce,† the chloride of zinc,‡ creosote,§ which

* M. Larrey applies the actual cautery by exposing the parts by means of an ivory speculum, because the metallic speculums being good conductors of caloric, are rapidly warmed by the hot iron and produce too much heat in the walls of the vagina; a speculum of wood, of bone or of glass, would answer as well as that of M. Larrey, and has the advantage of being cheaper.

† This caustic, which was proposed by M. Récamier, and which we have seen employed by that able and ingenious practitioner, has not fulfilled the anticipations which it gave rise to at first.

‡ Doctor Cancoin has extolled the chloride of zinc, as possessing the advantage of giving less pain and producing a dry slough. This practitioner, with two, three, or four parts of flour, forms a soft paste, the thickness of which ought to be in proportion to the depth of the part to be destroyed. For superficial cauterization, M. Cancoin uses a mixture composed of eight parts of nitric acid to one of chloride of zinc.

§ We communicated to the Academy of Sciences in 1834, a case of cure of sanious ulceration of the neck of the womb, which had resisted every other means, even the cauterization with the acid nitrate of mercury, but which soon cicatrized after several cauterizations with a mixture of ninety parts of distilled water to one of creosote. This case has since been reported in an excellent memoir, by Doctor Miguet, published at Paris, in 1834. the title of which is: *Recherches Chimiques et Médicales sur la Créosote*, in 8v., observ. iii. p. 70. Notwithstanding this favourable result, we have been forced to limit the employment of the new substance which was discovered by Reichenback, because its application is often very painful. Our brother practi-

cleanses the ulcers and hastens cicatrization; and finally, the acid nitrate of mercury, which is most frequently employed, because it is more active and easier of application than any of the caustics.

For cauterization, the patient must be placed across the bed, as for the application of the speculum. This instrument should be introduced and placed in such a way that its mouth may embrace the cervix uteri, and protect the walls of the vagina from the contact and spreading of the caustic. When the os tincæ is fully exposed, we remove the mucus from its surface with a piece of linen, a sponge or a pledget of charpie, fixed upon a little stick of wood, in a pair of dressing-forceps, in our caustic-holder, or in a forceps attached to the handle of our small lever for redressing the cervix. We then finish the cleansing of the parts with one or two injections of cold water, the jet of which should be directed upon the sides of the speculum, and not into the cervix; then, having dipped a little pencil of charpie, or the sponge of our caustic-holder, into the acid proto-nitrate of mercury, prepared with two drachms of this salt to an ounce of nitric acid, we touch the ulcerated surfaces the more lightly in proportion as they are more superficial, and as we approach nearer to the edges of the diseased parts.

The caustic should be left at least a minute in contact with ulcerations of a cancerous nature, and, in this case, it is useful to repeat the cauterization several times in succession. For this purpose, we should observe the precaution to wet the pencil each time, and pass it lightly against the edge of the vessel which holds the acid, in order that it may be charged only with the quantity strictly necessary for acting upon the ulcerated surfaces. We prevent, by this means, the action of the caustic upon the neighbouring parts from producing inflammation and adhesion of the walls of the vagina, and the various accidents described by MM. Marjolin, Lisfranc, Dugès, Pauly, Loir, and other practitioners.

When the operation is terminated, we should immediately make use of an injection of cold water, or of some emollient or narcotic decoction, which ought to be left during several minutes at the bottom of the speculum, so as to bathe the os tincæ and diminish the pain, which, however, is not generally severe. If the first cauterization be not sufficient, it must be repeated after the fall of the slough, which takes place on the fifth or sixth day, and the same means should be renewed until we have completely destroyed the altered portions, which is known to be the case when the ulcerated surface presents granulations like those developed in simple wounds. In general, cauterization should not be used except for ulcerations of slight depth and extent of surface, or in order to destroy fungus resting on healthy tissues: in this last case, we ought, before applying the caustic, to excise the vegetations with the curved scissors which we invented for this purpose, and satisfy ourselves before

tioner, Doctor Tèallier who, since the publication of our case has likewise made use of the creosote, seems to have renounced it for the same reason. That able practitioner employed this extremely active remedy in the proportion of ten drops to a tablespoonful of water.—(*Du Cancer de la Matrice*, p. 244, 1836.)

operating, that the surrounding tissues are not the seat of an acute inflammation. If such were the case, we should first employ baths, enemata, emollient injections and poultices, and we should treat the consecutive inflammation by the same means, and by general and local bleedings.

We shall conclude what we had to say upon cauterization, by adding that, though it is often efficacious in cases of superficial ulceration, it is always useless, and even injurious, in extensive ulcerations and deep scirrhous degenerations. The resection of the diseased parts is then the only resource which offers any chance of success.

### AMPUTATION OF THE NECK OF THE UTERUS.

The resection of the neck of the uterus above its connection with the vagina, though a triumph of modern surgery, had already been recommended by the ancients. Ambrose Paré* advises the section of the *thym* of the neck of the womb, which is "hard, rough or uneven, of a livid colour, fungous, with a pricking pain, like points of needles." In speaking of malignant *thym*, he says, "that it becomes angry at being touched, and throws out a large quantity of blood when cut or irritated, especially after commerce with men, or when the woman has walked or taken violent exercise." He adds, "that we may apply the speculum matricis, in order to see more easily . . . ." Lapeyronie, being consulted for a sarcoma attached to the margin of the uterus, which was callous at that point, thinking that the tumour might be extirpated with the callosity from which it grew, cut into the healthy part, and the patient recovered perfectly. N. Tulpius, who died in 1674, asserts† that scirrhous tumours of the uterus, which had already acquired the malignity of cancer, have been successfully extirpated. Judging, however, from the drawing he gives of one, which was removed from a woman named Gertruda Turina, it would seem that these tumours were in fact mere polypi. According to Baudelocque, the resection of the cervix uteri was proposed by Lauvariol, in 1780; it was also advised by Wrisberg,‡ in 1787; by Monteggia, in 1788, in a work§ translated into German by Dr. Schlessing, and commented upon by Dr. Kravel, in a dissertation published at Jena in 1786, where he renews the proposition of the celebrated surgeon of Milan; and finally, in 1801, Professor Osiander published the first well-authenticated case of resection of cancerous os tincæ. Having published, seven years later, in the *Bulletin of the Royal Society* of Gottingen, a memoir in which he described the results of several operations of the same kind, his successful attempts produced so great a sensation in Germany, that the Josephine Academy of Vienna proposed a reward of two hundred florins for the best essay upon this subject.

This new and bold operation made a great noise in France, and

* Œuvres d'Ambroise Paré, lib. xxiv. p. 1012.
† Observat. Medend., lib. iii. cap. 34. avec fig. 1641.
‡ De Uteri Resectione, etc. Goetingue, 1787.
§ Annotazionni pratiche sopra gli mali. ven., p. 179.

was adopted and several times performed by Dupuytren and Professor Récamier, to whom the science is indebted for the cylindrical speculum. But the hopes which the first results gave rise to, not being realized, it was in some sort abandoned by the surgeons who had been its first partisans, when, in 1826, the numerous cases published by M. Lisfranc, forced the most incredulous to recognize the little immediate danger usually incurred, and to acknowledge that when practised in good time, and in the proper mode, it forms the only resource which affords any chance of success in cases rebellious to all other means.

Several methods have been proposed or employed for performing the resection of the cervix uteri, either by bringing the organ down to a level with the vulva, or by operating without displacing it.

M. Osiander, having carried two curved needles, armed with ligatures, up to the cervix uteri, and pierced it in two opposite points of its circumference, drew the organ as near as possible to the vulva by making gentle traction; he then divided the diseased parts with Pott's bistoury, and afterwards plugged the vagina with masses of charpie on a small sponge, covered with a mixture of powdered alum, gum-arabic and resin.

Professor Dupuytren, and in his manner, most surgeons, have substituted for the ligatures of Osiander a very long Muzeux forceps,* with slightly curved hooks, to seize or loosen at will the cervix uteri; we shall detail in a few words the method of M. Dupuytren, as it is described in the *Médecine Opératoire of Sabatier*. "The surgeon introduces the speculum, properly oiled, into the vagina, and gives it to an assistant to hold. This done, he seizes and draws gently towards him, with a Muzeux forceps, held in the left hand, all the portion of the cervix uteri affected with carcinomatous degeneration, and removes, with a double-edged knife, curved laterally, or what is better, with very long and strong scissors, also curved laterally, and exceedingly sharp, which should be held in the right hand, and carried alternately above, below, and on the sides, turning the concavity inwards, and causing them to act as much as possible on the parts situated beyond the limits of the disease."

The method of M. Lisfranc, which is the one most generally followed, also consists in drawing down the womb to a level with the vulva; the apparatus and instruments necessary for the operation, are a bivalve speculum, two of Muzeux's forceps, two probe-pointed bistouries, one straight and another with the blade curved on the edge, strong scissors, curved on the flat, a pair of forceps for torsion, ligatures, compresses, charpie, and finally, a T bandage.

In order that nothing may be omitted, and the better to describe the method in all its details, we shall give it here, as we described it in our memoir on amputation of the neck of the uterus, from the

* So called after the surgeon who invented them. They resemble, in general arrangement, the ordinary dressing-forceps of the pocket-case, but differ in having the blades to terminate in small hooks, which lock when the instrument is shut, and in being more or less curved.—*Trans.*

thesis of Doctor Avenel, of Rouen, formerly pupil and prosector of the course on operative medicine given by M. Lisfranc.

The woman being placed in bed, as directed for our method, M. Lisfranc employs a speculum, composed of two half cylinders of tin, to the extremities of which are soldered two pieces of iron, which articulate with each other. From this arrangement it follows that by pressing on the free extremities of these pieces of iron, the two cylinders separate from each other; their separation allows the very large neck to be received between them more easily, and gives room for the passage of the instruments necessary for the operation. Besides, by stretching the vagina through its whole extent, it prevents that canal from covering the neck more or less, by forming a fold at its bottom. The forceps of Muzeux, employed by M. Lisfranc, are longer and stronger than those generally used; their hooks, which are less curved, hold the organ very well, without our being obliged to separate them to a great extent; their length, moreover, helps to keep the hand of the assistant who holds them, out of the way. The operator, having ascertained the position of the cervix, in order that he may find it as soon as possible, and with the greater ease, introduces the *speculum*.

The os tincæ is cleansed, if necessary, in order to be sure of its presence, and of its not being covered by any fold of the vagina. The forceps, closed, are carried directly beneath the organ; as soon as the blades are sufficiently open, and engaged between the cervix and sides of the speculum, to seize, if possible, two points directly opposed to each other, the operator presses lightly upon them in proportion as he buries them in the tissue of the womb.

This manœuvre is indispensable in order to follow the upward movement of the organ, one which exposes us to the liability of seizing it too low down. The speculum is then readily withdrawn alone, as the forceps can pass through the interval, separating the semi-cylinders. The first thing to be done is to make gentle, slow, and gradual traction upon the uterus by the aid of which we endeavour to bring it down to the inferior part of the vagina, first in the direction of the axis of the superior, and then in that of the inferior strait; but in order that the uterus may be more completely taken hold of, and the entire circumference of the inferior portion of its neck likewise project externally, the surgeon applies the blades of a second pair of forceps to the extremities of the transverse or antero-posterior diameters of the organ, according to the direction to which the first has been applied.

In this way, whatever tendency the uterus may have to resume its position in the abdominal cavity during the section, the tissues maintained in situ may be divided, either at the same or at different heights, according to the pathological condition. The index finger being now carried up to the point of insertion of the vagina, easily recognized by the presence of a kind of ring above which pressure causes an empty space to be felt, the surgeon confides the forceps to an intelligent assistant, who, by uniform traction, maintains the cervix, which is susceptible of a greater or less prolapsus, in different subjects,

in a proper position. The assistant should stand in front of the patient, while the operator must be placed like him between her thighs, and to the left, holding a curved bistoury cutting upon its concavity, the half of which corresponding to the articulation of the blade with the handle, must be covered with linen within about an inch and a half, more or less, of its blunt extremity, according to the size of the cervix. The operator directs the assistant to raise the forceps, so as to give to the inferior portion of the womb a see-saw movement, which causes the posterior part of the neck to project to a greater extent; in this way the limits of the disease will be better seen, and he can cut higher up. The surgeon now glides the left index finger semi-flexed behind the os tincæ, and measures with this finger, the palmar face of which is directed downwards, the height at which the section ought to be made; the bistoury is placed immediately beneath it, and as the instrument advances, he directs and gives to it a *point d'appui*, whilst the assistant gradually lowers the forceps, in order to make the other portions of the cervix uteri project in their turn, in proportion as the surgeon cuts at different heights. It ought to be well understood, as the disease may extend higher on one side than on the other, and so that the disease may be completely removed, that the assistant must be directed to give suitable inclinations to the inferior extremity of the uterus by means of the forceps, and especially not to exert too strong a traction as the division terminates, lest the tissues be torn. The bistoury, moreover, ought to advance by sawing movements, and with gentle strokes, so as to prevent injuries to the labia majora, irregularity of the wound and dangerous slips. This part of the operation is rather difficult, because of the resistance which the tissue of the cervix uteri in its natural state presents.

In some cases the cervix is too large to be received into the *speculum:* we are then obliged to remove the instrument, and conduct the hooks up to the os tincæ upon the finger.

### MODIFICATIONS OF THE OPERATION BY THE AUTHOR.

In order to avoid the employment, at the same moment, of two of Muzeux's forceps, which we are compelled to confide to assistants, whose hands embarrass the manipulations, and especially in order to seize, in every direction, readily and firmly the neck of the

Fig. 37.

uterus, the part to be drawn down, we invented, in 1828, a hook with eight claws, which approach or separate by means of a central

shank fixed upon a slider, arranged in the form of a cross. With this instrument called by us the *utero-ceps*, from the Latin words *uterus* womb and *capere*, to take, a surgeon may operate alone; he may, for this reason, execute all the traction more uniformly, and finally direct more methodically the movements of elevation, descent and laterality, which the section of the diseased parts requires.

Fig. 38.

The handle of our quadruple hook, which is made movable by means of a hinge, ought to be directed towards the anus, so that the hands of the operator may not cover the entrance of the vulva and the interior of the speculum, as happens when the forceps of Muzeux is employed. To perform the amputation of the neck of the uterus with the *utero-ceps*, it is introduced into our speculum or any other multivalve speculum, then, after having fixed the claws firmly into the circumference of the neck, the handle is bent in the direction of the shanks of the hook, and the dilating instrument withdrawn as done by M. Lisfranc.

After the removal of the speculum, we give to the handle of the *utero-ceps* the direction which it had had at first, that is to say, it is brought back again towards the perineum, in order to accomplish the descent of the uterus slowly and carefully, and according to the principles we pointed out above.

The operator, in using our forceps, not only seizes the cervix with a single instrument, but he has also much less occasion to fear laceration, which often results either from tractions made unequally, and in one direction rather than in another, or from the fatigue or awkwardness of the assistants, who, from being unable to keep the blades of Muzeux's forceps shut for a sufficient length of time, loosen them so much as to allow them to slip from the cervix, an accident of which we could cite several examples. We have even seen a professor of the *École* obliged to abandon the operation after this unfortunate accident, which unhappy attempt was followed by intense nervous symptoms, and a metro-peritonitis, which caused the death of the patient.

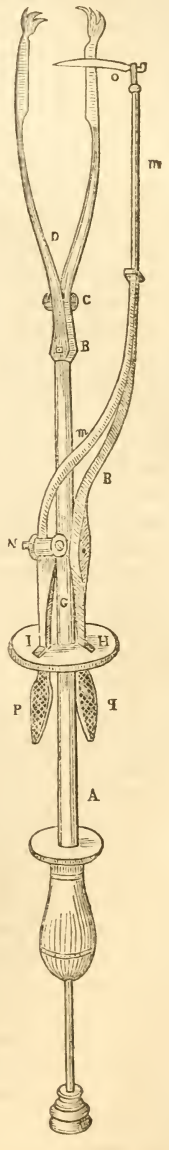
If, having adjusted the hook, it should be found impossible, as often happens, to bring down the uterus to a level with the vulva, we must not for that reason abandon the operation; it would become necessary, in such a case, to replace the speculum without removing the utero-ceps, and then make the section of the neck, either with our knives, with the ends formed like a hook, or with extremely curved scissors, drawings of which we have given in this volume, (*vide cut*). We might, likewise, make use of these two last instruments to make the section of the neck, even after having seized it with the forceps of Muzeux.

We shall conclude by saying, that in operating with the modifications and instruments we have now described, we have no occasion for educated assistants who have frequently witnessed the operation, and who can be found only in the large hospitals of Paris.

## OF HYSTEROTOMY PERFORMED WITHOUT DISPLACING THE UTERUS.

The numerous amputations of the neck of the uterus, performed by the preceding methods, have proved that the tractions exerted upon the organ and its appendages, rendered the operation generally very tedious, and always difficult and painful, while the section of the neck scarcely caused the patients to suffer any considerable pain, and was, in some cases, almost unnoticed by them.

Fig. 39.




These motives, the difficulty, and even impossibility, experienced of bringing the uterus down, in cases of soft, fungous and fringed cancer, etc.; the decided prolapsus which sometimes results from the operation, and which retards or presents the cicatrization of the wound by reiterated frictions; the nervous disorders, and all the unfavourable symptoms which depend on the tractions, displacements, violent and sudden extension of the tissues, membranes, ligaments, nerves and vessels, not only of an organ already diseased and inflamed, but also of several other organs, whose anatomical relations are, like those of the womb, more or less changed; the danger of perforating the vagina, as has happened, while operating in this cavity with several instruments which we shall make known; and finally the hope of being able to offer a surgical resource for a disease, whose nature and progress have made all other operative methods seem inapplicable, have suggested to us the idea of a method of *hysterotomy* which, acting without the exertion of traction, seizes and cuts at the bottom of the vagina previously dilated by means of the speculum, the cervix uteri at the proper height.

Our *hysterotomist*, which name is derived from the Greek words υστερα, womb, and τεμνειν, to cut, is a somewhat complicated instrument, and is composed of the following parts:

A steel tube, AA, three lines in diameter, and six inches in length, terminated at one of its extremities by a double-hooked forceps BB, the blades of which are approximated in such a way as firmly to seize the neck, by means of a shank CC, designed to push forward the movable slider D, which should shut or separate the grooved blades of the hooked forceps BB. The shank CC, which traverses the whole tube AA, traverses likewise the ivory handle E, which is terminated by a button F, by

which the shank CC, to which it is fixed, is moved. At the middle of the instrument is a copper cylinder G, terminated inferiorly by a kind of pulley H, upon which are the spring I, and the hook L, which keeps the lever M elevated, and which rests upon the enlargement N of the cylinder G, serving as a guide to the blade O, intended to amputate the cervix uteri. This lever M, which is raised by pressing its extremity P, remains fixed to the hook L. It is mounted in this way, and as we now describe it, the hysterotome ought to be introduced into our speculum.

## DESCRIPTION OF THE OPERATION.

The patient should be placed on her back at the edge of the bed; two assistants should keep the legs strongly separated, and fix the pelvis in such a way that it cannot move. The legs should be flexed upon the thighs and these on the pelvis. The hips must be so arranged as to be slightly elevated, and they should project a little over the edge of the bed.

Every thing being thus arranged, the operator proceeds to the introduction of the *speculum uteri*, and then after confiding the handle to an assistant, and being well assured that the os tincæ is embraced in the instrument, he introduces the *hysterotome*, and pushes with the right hand the shank CC, which causes the blades and claws of the hooked forceps BB, to approximate and seize the cervix at a greater or less depth, according to the extent of the disease. Continuing to push forward the shank CC, the guide cylinder, by means of the lever M, carries the blade O in front of the claws of the forceps; when we press upon the two stops, P and Q, the blade, which is attached to the lever, falls suddenly on the part we design to cut off, thereby imparting a movement of rotation to the cylinder G; the lever M turns around the neck, which is amputated circularly by the blade O.

Before loosening the stops P and Q, it is necessary to be careful to draw slightly upon the uterus, in order that the tissue, being made tense, may cut more readily. The instrument, at the extremity of which is fixed the portion of the cervix cut off, is then withdrawn, and after having removed the speculum, the patient is placed in bed.

We are far from pretending that our method of operating ought to be employed in all cases; we think, on the contrary, that it should be used only in certain circumstances; amongst others, when the woman is extremely nervous; when the womb is very high up and not very movable; when the neck of the organ is soft, friable and lacerated; and lastly, in cases where the other methods had been vainly attempted, and when they would seem to be of difficult, tedious, dangerous, or altogether impossible application.

When the womb presents the opposite conditions, that is to say, when it is naturally low down, movable, and sufficiently consistent to support the efforts made with the hooked forceps, we think that hysterotomy should be performed, by drawing down the uterus with two hooked forceps, or, as we have proposed, with our own hooked

forceps of four blades, which has the advantage of holding the cervix in every direction and very firmly, and does not require the assistance of other hands to bring down the womb, or the aid of an intelligent surgeon, who has already seen the operation frequently performed, and who can be procured only in some of the great hospitals of Paris.

In order not to extend our remarks too far, we shall give merely the most important details of the different operations, the three first of which are particularly interesting, on account of the very considerable size of the tumours, and the impossibility of removing them by the ordinary methods. The two others possess no interest, except that they were but slightly painful, very easily performed, without accident, and almost without consecutive hæmorrhage.

Madame Ch——, aged thirty years, was of a sanguine-bilious temperament, with brown hair, of large frame and good constitution; the mother of three children; affected twice with syphilis, communicated by her husband; after some domestic chagrin, and the loss of a moderate fortune, she found herself attacked with lancinating pains in the groins, loins, thighs, and uterus. Though well regulated before the appearance of all these symptoms, she had experienced, for some time past, certain irregularities of menstruation, and had uterine hæmorrhages, so frequent as to be almost continual: a white discharge, mixed with blood, and of a fetid odour, always accompanied the sanguine effusions, which had so much reduced her strength, that it was almost impossible for her to walk, or attend to her ordinary occupations. Madame Ch——, finding that none of these symptoms diminished, consulted her family physician, M. Bertrand, who, having made an examination, suspected cancer of the cervix uteri, and was assured of it by means of a speculum, applied by Dr. Berthelot, who had been called in consultation. The cervix was very large, softened, and covered with numerous ulcerations and vegetations; it was fringed upon the edges, and presented all the characters of an enormous cancerous fungus. The operation by our method being regarded as the only means of safety which remained to the patient, and the only surgical means applicable in the case, MM. Bertrand and Berthelot informed me of their determination, and we proceeded to the operation on the fifteenth of November, 1828. A few moments were sufficient to terminate it, notwithstanding the difficulties we had to surmount in fixing the hooked forceps of the hysterotomist into the cervix uteri, which was two inches and a half in diameter, softened, and bathed in blood. Our speculum with six blades was employed, and its introduction into the vagina was not at all painful. The patient told us that she had suffered less during the operation than when, in order to explore her disease, the speculum with two blades had been applied. A rather abundant hæmorrhage occurred during the operation, but ceased as soon as Madame Ch—— was placed in bed. None of the accidents which generally take place occurred. There was no syncope; no nervous symptoms, subsultus tendinum, or delirium. Two attacks of vomiting followed; we had taken care, in order to

prevent fatiguing efforts, to moderate them by causing the patient to drink some sweetened water. Not a symptom of fever, of metritis, or of peritonitis made its appearance; a single bleeding was performed the day after the operation, on account of a slight increase of the pulse; moreover, the patient lost so little blood afterwards that the sheets were scarcely soiled. Eight days after the operation, another application of the speculum enabled us to observe a commencement of cicatrization, and a wound of the finest appearance. General and local baths, emollient injections, and then injections of chloride of lime were prescribed. Strict diet was observed from the first, and the ordinary drink was a ptisan, made of pearl barley and gum, sweetened with lemon-syrup. Twenty-five days after the operation, the patient was entirely cured, and the cicatrization complete. A lead-coloured and jaundiced tint, and a sad and anxious expression were soon replaced by a serene and well-coloured countenance. Finally, Madame Ch——, before a month had elapsed, could attend to her occupations, which she had been, for a long time, obliged to abandon. In order that no doubt might remain upon the nature of the alteration of the cervix, I showed it to MM. Dupuytren, Récamier and Blandin, as well as to a great number of other surgeons, who were of opinion that the portion excised was of carcinomatous nature.

Unfortunately the favourable result of the operation did not prolong the life of Madame Ch——. As she had evidently a cancerous diathesis, the disease showed itself again; not in the uterus, but below the urinary meatus, as a scirrhous tumour, which, preventing the expulsion of the urine, was removed by Doctor Berthelot; the carcinomatous affection afterwards appeared in the vagina, and extended step by step to the gestative organ, where it had commenced; this patient, however, enjoyed pretty good health for eight or nine months after the operation, and it was not until fourteen months after, that she perished from the return of the disease. At all events, there is no doubt that the operation prolonged her life at least a year.

On the fifteenth of February, 1829, we were called to Longjumeau, (*Seine et Oise*,) by Doctor Guénée, to see a woman, thirty-six years of age, who was affected with fungous cancer, of very considerable size, seated in the cervix uteri, and extending nearly to the insertion of the vagina. The tumour, extremely friable, soft and disorganized, was the seat of a fetid discharge, and of almost constant hæmorrhage. In spite of the extent of the disease, and the difficulties we should have to encounter, we proceeded to the operation, assisted by M. Guénée, physician to the patient, and by M. Ducreux. Though we had a good deal of difficulty, from the size of the tumour, and the sanguine discharge which took place in adjusting the hooked forceps of our hysterotomist, the diseased portions were soon removed; the hæmorrhage, which had lasted for several months, ceased as soon as the patient was replaced in bed, and not a nervous or inflammatory symptom followed. The pulse, which was frequent before the operation, far from being accelerated, diminished in rapidity, and the patient soon recovered her strength, appetite and ability to sleep, of which she had been long deprived by the frightful pain she had been subject to. This case was inserted in the *Lancette*

*Française*, vol. i., No. 49; the tumour was seen by MM. Breschet, Velpeau, Fabre, and several other distinguished physicians.

We also performed the amputation of the neck of the womb in another case nearly similar to the preceding. The tumour, in this case also, was a very friable fungous cancer, presenting, however, a rather narrow pedicle springing from tissues which seemed healthy, or, at least, not deeply indurated. The operation was performed on the 2d of June, 1830, in the presence of MM. Caignoux, Bonfils and Lachaise. No consecutive hæmorrhage appeared; the nervous symptoms were confined to two attacks of vomiting; the fever was very moderate, and the patient, who was twenty-eight years old, and whose disease dated more than fifteen months back, soon recovered perfectly; the cicatrization of the wound was complete in six weeks: finally, up to the 2d of April, 1832, the epoch at which Madame C—— died from an attack of cholera, she had suffered only from an habitual feeling of weight in the pelvis and some rather acute pains before the appearance of the menstruæ. The excised portion was shown to MM. Breschet, Cruveilhier, Blandin, Récamier, Dupuytren and several other practitioners, who all regarded it as a cancerous degeneration of the cervix uteri.

The excision of the os tincæ was also performed by us with entire success on a woman twenty-six years of age, who had consulted MM. Dubois, Marjolin, Boyer, Lagneau, and her relative, Doctor Sulp ... The cervix uteri, without being very voluminous, was, nevertheless, hypertrophied, and exhibited an ulceration with a hard base, of a grayish colour, giving rise to a fetid ichorous discharge in such quantity that a few moments sufficed to soil several napkins. As the disease continued to advance and had resisted every means, including a mercurial anti-syphilitic treatment and the *rob de Laffecteur*, we proposed the resection of the neck, which was performed very easily and almost without pain, on the 13th of January, 1831, in the presence of MM. Deganose, and Doctor Sulp ....., a cousin of the patient. The hæmorrhage was rather more abundant than in the preceding cases, but there were no consecutive nervous symptoms. The cicatrization was complete in less than two months. This lady, who has become a widow within two years, continues to enjoy perfect health. The os tincæ which was cut off was presented to the Anatomical Society of Paris.

Lastly, we performed the operation of hysterotomy, by our method, upon the wife of a cab-driver; but the operation, which was easy and without unfavourable consecutive symptoms, did not prevent the patient from dying of a relapse, ten months after the excision of the affected parts. We ought to state, however, that the cancerous disorder seemed to be hereditary in the case, for her mother died from the sequelæ of a cancer of the breast which had been extirpated at the *Hotel-Dieu*, by M. Dupuytren.

For operating at the bottom of the vagina, M. Jules Hatin has proposed, and in one case put in practice a method of which we shall say a few words.

The operation is divided into two periods; in the first is applied

the speculum with three blades, which can be opened at once by a screw, and which allows an instrument for holding the cervix and corpus uteri to be introduced into the uterus. This instrument is composed of three shanks, which separate from each other when opened in the uterus, in such a way as to fix that organ and make it tense. The *uterotomist* is then introduced, which is composed of two separate portions united by means of an articulation similar to that of the *forceps*, in the middle of which is an opening to allow of the passage of the shank, whose extremity is within the cavity of the womb. These two portions, which are adjusted one after the other, and united within the *speculum*, carry, at their uterine extremity, two crescentic blades, the approximation of which effects the section of the cervix.

We have but little to say upon the method of Doctor Canella, which, in our opinion, has but a single inconvenience, that of being inapplicable to any case. The instrument described by this physician in the *Revue Médicale*, more than two years after the publication of our memoir upon the amputation of the neck of the uterus, inserted in the number for May, 1828, of the same journal, is composed of a cylindrical speculum, into which is introduced a second speculum armed with a blade, designed to cut the cervix, by making the tube which supports it revolve on its axis. A pair of Muzeux's forceps should be used to hold the organ during the operation.

## ADVANTAGES OF THE AUTHOR'S METHOD.

1. By making the incision of the os tincæ at the bottom of the speculum, we avoid not only the very acute pain caused by the tractions which it is necessary to make in order to bring the uterus to the level of the vulva, but also most of the secondary nervous symptoms which, according to our observation, seem to depend less upon the section of the organ than upon its displacement and the sudden distension of its ligaments. The secondary hæmorrhage, likewise, has always been slight after the application of our method, and has always ceased spontaneously, which, we may remark, is more difficult of explanation than the absence of the secondary nervous phenomena.

2. There is less cause to fear metritis and peritonitis, which often result from the violent manipulations, the lacerations and the tractions of the organ, or from the introduction within its cavity of an instrument designed to hold or draw it down, as performed by MM. Hatin, Guillon and others.

3. It is not necessary to renounce the operation, as has often been done, when the neck is softened, lacerated, and voluminous, or when, in other circumstances, the uterus cannot be brought down, even by the most methodical tractions.

4. The walls of the vagina, the labia majora, and all the neighbouring parts protected by the speculum, are not exposed to the danger of being wounded, and perforated by the cutting instrument, or by Muzeux's forceps.

5. Prolapsion of the womb, a consequence of tractions exercised upon the organ, not occurring, cicatrization is always more rapid, from not being retarded, and rendered impossible, even, by the repeated frictions which the inferior portion of the viscus, in an unusual state of descent, undergoes.

6. The operation, which does not require intelligent assistants, is more rapid, easier, and always less painful than by any of the other methods. At a single blow, especially if the neck be not very large, we remove the diseased portions which have been carefully explored by means of the touch, the speculum and our concave mirror, without fear of the accident which happened to the professor at the *Ecole:* in this case, when the cervix had been half cut, the uterus, which had been drawn to the exterior with a great deal of trouble, returned into the vagina, when it was impossible to seize it again in order to finish the operation, the effects of which were so unfortunate that the patient died in a few days.

Should the objection that we are unable to make other than horizontal sections be brought against us, we reply, that inasmuch as hysterotomy affords some chance of success only where the cancerous ulceration does not extend beyond the os tincæ, our method is always applicable in the cases which are much the most common: besides, if the disease should extend to one of the sides of the neck, we think it would be better to cut transversely, on a level with the diseased point, in order to be certain of destroying all the cancerous germs, and to obtain more rapid cicatrization, the wound being of less extent than when the section is made diagonally. Moreover, we repeat, should our method not be applicable in all cases, and though it may often be necessary to prefer that of M. Lisfranc, it is, as we have proved, an useful addition to surgery, and a resource to which practitioners might have recourse, especially when other methods seem to be contra-indicated, less by the extent of the disease than by certain dispositions of the parts which render hysterotomy, by drawing down the organ, of difficult and often impossible application.

*Amongst the consecutive phenomena* of the operation, we should include different nervous symptoms, which alarm persons who have never witnessed them. They are generally of short duration, and rarely last more than two or three hours, especially when some antispasmodic is administered to the patient.

The blood, which often flows very rapidly, forms a clot which fills the vagina and occasions tenesmus, frequent stools and ineffectual desires to urinate. Sometimes frequent vomiting comes on, or eructations, singultus and nausea, which occasion great suffering. The contraction of the abdominal muscles, and the shocks which they occasion, expel from the vagina the clot which had arrested the hæmorrhage. The blood, which flows afresh, relieves all these symptoms; but it often happens, when the discharge continues, that the face becomes pale and the pulse feeble, and vertigo, trembling, tinnitus aurium, subsultus tendinum, and other nervous affections make their appearance: finally, syncope often follows, which causes all the phenomena to cease, and which ought the less to disquiet us, as it is

a means which nature employs to arrest obstinate hæmorrhage. We should restore the patient, tranquillize her, but avoid the use of the tampon, unless the woman is threatened with death, from the long continuance of the bleeding after the syncope.

It is very unusual for it to become necessary to use the tampon; but, when obliged to do so, it should be left only a short time in the vagina, because, by the pressure which it exerts, it may give rise to inflammation, and arrest a sanguine evacuation capable of preventing or diminishing it, if it already exist.

As these accidents occur several hours after the operation, it would be very imprudent to quit the patient or leave her alone for a single instant.

## AFTER-TREATMENT.

Sometimes the phenomena just described do not follow the operation. When the blood does not flow in sufficient quantity, we have to fear a violent attack of fever. It then becomes necessary to examine the state of the patient, to carry the finger into the vagina, in order to remove the clot which had arrested the hæmorrhage, and to employ, according to the advice of M. Lisfranc, warm, emollient injections. Small bleedings from the arm should be practised, at longer or shorter intervals, as the state of the pulse permits and the other symptoms require. These small bleedings, which are also used to arrest the hæmorrhage, diminish the violence of the fever very much, and check the inflammation which is developed around the wound of the uterus.

If we perceive symptoms of gastro-enteritis, and if the patient suffer from pain at the epigastrium, it becomes necessary to apply leeches to that part, to order enemata and fomentations of flax-seed mucilage, and to apply emollient poultices, unless the abdomen be too painful.

After some days, and when all the symptoms have disappeared, the vagina ought to be well washed out with injections of marsh-mallows; then, when the irritation has entirely passed away, and the wound seems to be cicatrizing, we should again employ injections, at first of pure water, and then of chloride of lime in solution, gradually increasing its strength. This kind of injection powerfully assists the cicatrization, which is often retarded by the white discharges, to which almost all women affected with diseases of the womb are subject.

These discharges sometimes continue after the operation, and give rise to bleeding granulations, which it is necessary to cauterize with the acid nitrate of mercury. Cauterization, performed in this way, not only destroys the fungous granulations, but also checks the healthy granulations, whose exuberance prevents the cicatrization.

For several days after the operation, the patient should be kept on a rigorous diet. It will be proper to recur, from time to time, to revulsive bleedings, and to order baths, emollient injections and enemata. When the cure is complete, we should prescribe a mild regimen, more particularly a vegetable one: coïtus should be used

with the greatest moderation, and abstained from altogether, in case it should cause acute pain.

We shall conclude by saying that amputation of the neck of the uterus is an operation that ought to be resorted to with the greatest reserve, and only as the last resource, in cases where the therapeutical means we have mentioned have failed to arrest the progress of the disease, which thus renders the death of the patient inevitable. Yet we must not wait until the cancerous affection has implicated the whole cervix; for, independently of the greater danger which would result from the operation in such case, relapse would be almost inevitable, should the disease, having spread beyond the os tincæ, require the removal of the whole or a great portion of the neck, and especially if we have to scoop out its cavity, as most practitioners recommend. It is this reason that renders the horizontal sections most commonly suitable, and makes our method applicable and sufficient in a large proportion of the cases. Besides, if portions of a suspicious character remain, it would always be easy to remove them by means of our hooked forceps and one of our sickle blades, as in the case of the woman upon whom we operated at Longjumeau.

The operation offers a better chance of success when the affection is a primitive ulceration, resting upon a very thin indurated layer, and consecutive to a carcinomatous degeneration. The *fungous cancer*, whose pedicle, whether large or small, is fixed by shallow roots in the os tincæ, is one of the forms of cancer least disposed to relapse, after the excision of the parts. In all cases, the operation should be deferred, so long as the disease seems to remain stationary, and there is a hope of arresting its progress by any other means. Finally, hysterotomy should be absolutely rejected, when the lesion is not confined to the cervix, or when it affects other organs at the same time: it is well also to take into consideration the hereditary predisposition, the course and duration of the disease, and the age and constitution of the patient. Ulcerated scirrhus, encephaloid, and hematode cancer, are much more liable to relapse, especially if there be any hereditary predisposition. We ought to state that this last circumstance renders the reproduction of the disease almost inevitable, and generally contra-indicates the operation.

We shall conclude by remarking, that even though amputation of the cervix uteri should not succeed more than once in six, and even once in twenty cases, it would nevertheless be a valuable acquisition to modern surgery, since it may save the lives of women devoted to certain death, or, at least, often postpone the fatal event. We may add that the operation, which is much less painful and less dangerous than cystotomy, has not prevented several women who have undergone it from becoming pregnant and being happily delivered.* If

*Madame Carpentier, operated upon by M. Lisfranc, has had four children, of which two were twins; what is remarkable, is, that before the operation she had never conceived, although she had been married for several years. In this case, and in some others that we might cite, it is probable that the section had not gone much beyond the os tincæ.

in some cases, on the contrary, obliteration of the inferior orifice of the womb may result, and, consequently, an obstacle to conception, and to the flow of the menstruæ; but it is easy to prevent this accident by the introduction of a small gum-elastic bougie into the mouth of the os tincæ, when we examine the state of the womb and the progress of the cicatrization by means of the speculum. In order to perform the section of the cervix without fear of hæmorrhage, M. Mayor, of Lausanne, has proposed* the ligature applied in such a way as to separate the diseased portions by a strangulation capable of destroying their vitality and the phenomena depending upon it. It is useless to say that this method presents too many inconveniences and too many difficulties in its execution to have met with many partisans; besides, the hæmorrhage, which M. Mayor seems especially anxious to avoid, prevents, or diminishes when it is moderate, the inflammation of the uterus; in case it should be too abundant, we might make ourselves master of it, either by means of plugging, or by cauterizing the open vessels which furnish the blood, with a blunt stilet heated to a white heat, and carried up to the wound with the aid of the speculum.

We shall speak, also, merely to make mention of it, of the *cutting spoon of Dupuytren*, which is inconvenient, and only makes sections, which are always oblique, unequal and ragged; the scissors, curved in a semi-lunar form, and attached at a right angle to their handle, proposed by M. Arronsohn, of Strasbourg, have the inconvenience of cutting while pressing, and especially of requiring too great a separation to allow of their being introduced to the bottom of the speculum and embracing the cervix uteri, which is always found to be enlarged and engorged when it is the seat of a cancerous affection.

## EXTIRPATION OF THE CANCEROUS UTERUS.

Where the cancerous degeneration has extended its ravages to the body of the womb, it has been recently proposed to perform an operation for its complete extirpation. This frightful and daring operation is performed in several different ways; when the womb, wholly changed in structure, is found precipitated without or beyond the genital fissure, three different modes of operating may be discussed, viz: 1st, the extirpation, by means of a ligature passed round the root of the tumour formed by the inverted vagina. 2d, by a ligature applied in the same manner, but followed by the excision of the tumour, beyond the constricted point. 3d, the simple excision of the part with cutting instruments, and without the employment of the ligature. As, in speaking of the chirurgical treatment of prolapsus uteri, we have already discussed these different methods of effecting the extirpation, it seems unnecessary to recur, at great length, to the subject in this place; and we shall be satisfied, therefore, with adding, that the last-named mode of proceeding labours under the disadvantage of giving rise to dangerous hæmorrhage, and of admitting

* Séance de l'Académie des Sciences du 19 Février, 1827.

the atmospheric air suddenly within the peritoneal sac, an event that is almost invariably followed with most acute inflammation of that serous membrane. While the first-named operation is devoid of the danger of hæmorrhage, it nevertheless labours under an objection, that of producing severe and protracted pain, and the more so, as the strangulated womb does not become detached for several days; during which, the patient, affected by the putrid odour of the part, is liable to the most alarming nervous disorders, and to the most serious inflammatory attacks. Both of these methods ought, therefore, to be rejected, in favor of the second-named one, viz: the application of the ligature, and the excision of the parts beyond it. This operation is as simple as possible; it moreover avoids the hæmorrhage, the laying open of the peritoneal sac, the swelling and putrid calluvies of the womb, and lastly, most of the severe accidents following in the train of the other operations.

Whether the womb be found already prolapsed beyond the vulva, or whether it be drawn down by the operator himself, we ought always, previous to applying the ligature to the neck of the tumour, clearly to ascertain whether the bladder, or a part of the bowel, has fallen down into the cavity of the inverted vagina; and care, moreover, should be taken not to wound those organs: this is done by raising the woman's hips a little higher on the bed than the rest of her body, and by getting the parts well out of the way, by tapping the hypogastrium and other parts somewhat smartly with the hand. The surgeon, with a needle armed with a double silk ligature, of sufficient strength, now transfixes the walls of the vagina, in a direction from front to rear, and removing the needle, separates the ligatures, one of which should be tied firmly on the right, and the other on the left side. In this way, the strangulation is more immediate, and the ligature less liable to slip after the excision of the womb; which, as before mentioned, should be made beyond or below the ligature.

To draw down the non-prolapsed womb, with a view to its ablation, it is convenient to make use either of our quadruple hook forceps, (*vide cut*,) or of a sort of hollow sound, to be passed into the cavity of the womb, the walls of which are seized by four small hooks that are thrown out by means of a screw, at the lower end or handle of the instrument. This sound, which is moved by the same mechanism as that of our *tire-tête*, invented by us in 1828, for experimenting, upon the dead subject, along with M. Lisfranc, who was then about to operate for the total extirpation of the uterus, should be used only in case the cervix should not allow of a sufficient hold to the hook-forceps, and where the interior of the uterus, as yet not softened and diseased, could admit of a firm and solid attachment. M. Guillon's instrument, and Professor Récamier's, which are analogous to ours, might also be made use of; but they cannot be so firmly fixed, nor have they a graduated scale to indicate the precise degree of separation of the branches; nor can they be introduced, or withdrawn so readily, from the greater size and excessive saliency of their bent extremities.

*Extirpation of the womb in sitû.*—Where the rigidity of the liga-

ments prevents the drawing forth of the womb, which makes the operation much more difficult, longer, and more hazardous, its total ablation may nevertheless be effected in two different ways. The first, which is called the *hypogastric or surpubal operation*, was first proposed, and methodically described in 1814, by M. Gutberlat; this method, which is one of the most daring attempts of modern surgery, and which we absolutely protest against, under all circumstances, consists, in the first place, in embracing the cervix uteri in a sort of ring, mounted upon a rod and handle, so as to fix the womb firmly in one position; then in opening the abdomen along the linea alba sufficiently to admit the hand, with which the womb is to be held firmly, while, with a scissors in the right hand, he cuts away the ligamenta lata and rotunda, and the superior extremity of the vagina.

This operation, the most dangerous of all, yet the easiest of execution, has been performed on the living subject, by Langenbeck, of Gottingen, and also by Professor Delpech. Without pointing out the modifications of the method introduced by these two distinguished surgeons, we shall confine ourselves to the simple remark, that both the women perished; one in thirty-two hours, and the other three days after the operation.

So few are the chances of success presented by this horrible operation, that not only should it never be attempted, but even the works on operative surgery should notice it, only for the purpose of utterly proscribing it.

The ablation of the womb, in sitû, by the *sub-pubal* operation, was performed for the first time, in 1822, by M. Sauter, of Constance, physician to the Grand Duke of Baden. Previously to commencing the operation, he emptied the bladder and rectum, and then placing the woman as recommended for the excision of the cervix uteri, and directing an assistant to press the womb downwards, and at the same time support the bowels, after driving them upwards with the edge of the hand applied above the symphysis, the palm looking towards the pubis, "the operator introduced the left index and medius into the vagina, as far as the cul-de-sac; he next passed up a convex bistoury between the fingers, and cut the vagina in a circular line upon the cervix, to the depth of two or three lines; he next introduced between the same fingers, a pair of scissors curved on the edge, with which he separated the womb from the bladder up to the peritoneum, bearing hardest on, or cutting nearest to the uterus. With this view, he made use of his fingers to pull down and bring within reach of the scissors, the lowest portions of the cellular tissue, so as to cut them with great care. This is an easier and safer mode than to use the concave bistoury. This division, carried as far as the peritoneum inclusive, ought to be concluded at the posterior surface of the womb, by means of scissors curved on the flat, the concavity looking towards the womb, and by detaching it completely from the rectum, so as to permit the fingers to slide up along side of the womb and penetrate within the abdomen. Having gone thus far, the operator introduces the whole of the left hand, the palm looking backwards,

and embracing the uterus; with the index and medius he next draws down the highest of the lateral attachments, and divides it with the concave bistoury, which should be gently and carefully passed up between the fingers. The same division is effected for the other side, operating upon them alternately, so as to be enabled to make the section with safety on both sides, while the womb retains its position. It is hardly necessary to say that every successive section ought to fall upon its antecedent, so as not to prolong the operation uselessly.

"During all this time the assistant should keep his hand as above directed; when the extirpation is completed, the surgeon will find it necessary to attend to the bleeding. It may be that not much hæmorrhage will attend the operation, as was the case with my patient, and as ought to happen, if we keep close to the womb, whose blood-vessels are of small size, as I have learned by much research. Under such circumstances, the bleeding demands no particular care, but if it should appear to be considerable, or give rise to apprehensions, a large bundle of charpie should be immediately introduced into the pelvis, and pressed against the bowels, after which, the whole circuit of the vagina should be covered with large pieces of prepared agaric, filling up the void space with charpie; this simple method seems to me preferable to the use of styptics.

"After this dressing, let the patient be put to bed, and kept in a horizontal posture. Not until this is done should the assistant cease to restrain the downward tendency of the bowels with the pressure of his hand.

"Should no symptoms supervene foreign to the natural consequences of the operation, the case requires only the simple precautions of prudence. Every thing must be avoided that might tend to force the bowels down into the excavation of the pelvis; and all that is necessary in this respect is, that the patient make no change in her position for several days. Injections into the vagina, if any are deemed requisite, ought to be made with gentleness, that they may not penetrate into the abdomen. The same kind of care must be taken in adjusting the charpie. In common cases these precautions are sufficient, the rest must be left to nature, whose office must not be interfered with."—(*Mémoire de Sauter, traduit par le Dr. Peschier, of Geneva, and inserted in the Mélanges de Chirurgie étrangére*, 1824.)

The woman thus operated on by Sauter, January 28th, 1824, died four months afterwards. M. Hoelscher, who operated in the same manner, lost his patient in twenty-four hours. He was obliged to cut into the side of the vagina, in order to introduce his hand and facilitate the manœuvres; and, in order to guide his cutting instruments during the act of separating the vaginal insertion into the anterior face of the cervix, he passed a sound into the bladder. Both of the patients operated on by M. Siebold, one the 19th April, 1824, the other, July 25, 1825, died, one in sixty-five and the other in twenty-four hours. Those of M. Langenbeck, operated on January 11th and August 5th, 1825, also perished in thirty-two and fifty hours, respectively. This well-known surgeon made an incision into the perineum from before backwards; then, after dividing the vagina

posteriorly, upon the sides, and in front, he seized the womb by its fundus, and removed it entirely, by a careful dissection.

The four women who were operated on by Dr. Blundell, likewise perished. The first one, who was supposed to be cured, died in a year, from a relapse of the cancer; the second, in thirty-nine hours; the third, in nine hours; while the fourth lived only a few minutes. Dr. Blundell began the operation by detaching the vagina behind; and after penetrating the cavity of the peritoneum, between the womb and rectum, seized the fundus uteri, which he retroverted towards the coccyx; then, dividing the broad ligaments, he finished the ablation by separating the organ from the bladder, in such a way as to wound neither the uterus nor the neck of the bladder. The patient on whom M. Bauner operated, on the 2d September, 1828, died on the fourth day. After having detached the womb behind and in front, and cut away the broad ligament upon one side, he turned the organ upon its opposite side, and then closed the operation by separating the remaining ligaments, which, up to that period, he had left untouched.

M. Lizars, of Edinburgh, who adopted Langenbeck's operation, in October, 1828, also lost his patient, who died in twenty-four hours. He made an incision into the perineum, but prolonged it into the rectum; then, having turned the womb over, he detached it from the vagina, before and behind. Finally, M. Langenbeck, who operated for the third time in 1829, by the sub-pubal or vaginal method, modified, as has already been explained, was not more fortunate than he had been upon the two first occasions; for his patient survived only fourteen days.

M. Récamier, who is as skilful as a surgeon as he is ingenious and learned as a physician, performed the first operation in France, for the extirpation of the womb, July 29, 1829; but he had the misfortune to lose his patient, after the lapse of a year. M. Récamier's method is the same as Sauter's, which, by means of some important modifications, has been rendered more methodical, easy and safe. Where the descent of the womb has been found to be practicable by means of the hook forceps, or any other of the instruments already described, the vagina and its peritoneum are laid open, both behind and in front of the cervix, in such manner as to avoid the ureters and the fundus of the bladder. These incisions should be made with a guarded bistoury, and a probe-pointed one, carried upwards along the fingers to its extremity; the end of the left index finger is next passed into the opening, and serves as a conductor to the probe-pointed bistoury, with which the first opening is extended right and left, to near the ligamenta lata, always keeping close to the surface of the womb. The same mode is followed as to the posterior surface of the uterus, which now remains attached only by its sides. At this stage, a ligature is passed around each of the broad ligaments and secured by means of a *serre nœud*. Finally, the operation is brought to a close, as in prolapsus, by leaving on each side only a sufficient portion of tissue to hold the ligatures.

In cases where the womb admits of no hold being taken of it, and

the rigidity of its ligaments renders it impracticable to draw it down, M. Récamier opens the vagina behind, after the manner of Sauter; but, for this purpose, he makes use of a pharygotomist, and then, carrying Frêre Come's lithotomist into the anterior opening, and guiding it by the left index finger, extends the incision along each side of the womb, as far as the broad ligaments; and lastly, having repeated the same manœuvre on the posterior surface, casts a ligature round each of the ligaments, which are then cut off, near the uterus. The viscus, now completely severed from all its natural attachments, may be seized with a hook forceps, and easily extracted from the cavity of the pelvis. It is proper to state that M. Récamier does not include in his ligature more than the lower third of the broad ligament, for there are situated the principal blood-vessels of the womb. In the experiments made by us upon the dead subject in the Hospital de la Pitiè, we made use of a sort of probe-pointed lithotomist, which to us appeared preferable to Frêre Come's, because its blade, which cut only in the concavity, was less likely to wound the adjacent parts. For the adjusting of the ligature, we employed our needle-forceps, as being more convenient and easy of application; by which the needle was passed through the inferior third of the broad ligament, previously to commencing the division of it. Lastly, the manœuvres were rendered more simple and easy, by means of a small perineal incision, which greatly enlarged the vulva, and, by introducing a small sound into the bladder, for the purpose of protecting that organ, as well as guiding the action of the cutting instrument.

As hæmorrhage would be rendered impossible by the ligatures, and as the bowels would be kept above the pelvic excavation, by confining the patient to a horizontal posture, the tampon, in any shape, is not only useless, but pernicious; and all that is necessary is, to cover the vulva with emollient stupes, and take care not to allow the urine to flow into the vaginal cavity. The patient should be kept in a state of profound repose, and the only remedies should consist of antispasmodic draughts, cataplasms and fomentations, injections, cooling drinks, and, lastly, blood-letting, either general or local, proportioned to the strength of the patient and the nature of the symptoms.

We shall not describe the processes of Messrs. Tarral and Gendrin, because they have been practised only on the dead subject; and we shall say but a few words on M. Dubled's, which is an improvement on the partial excision of the body of the uterus, as performed in 1828, by M. Bellini, as follows:

Having drawn the organ as far down as possible, the operator, with a bistoury, separates the vagina from the cervix, both in front and behind; then, in the same way as M. Récamier, he secures the lower third of the ligamentum latum, with a ligature, and cuts it off close to the womb. As the viscus now holds only by its fundus adherent to the peritoneum, it becomes an easy matter to depress it still more, and remove all the diseased portions, leaving the sound parts behind. M. Dubled's patient, operated on June 20th, 1830, survived only twenty-two hours, although the whole of the womb

was not removed. In fine, two patients operated on by M. Roux, one by M. Delpech, and a second case by M. Récamier, perished alike, a few hours after the operation.

This statistical and funereal record of extirpations of the uterus, is fitter than any course of reasoning, to deter the practitioner from so redoubtable an attempt. It ought, therefore, to be rejected from the practice of surgery, the chief aim of which is to save life; except, perhaps, in cases where the womb, already partially expelled from the pelvis, and, in some sort, detached from the rest of the organism, may, in a sense, be said to have lost its right to inhabit the cavity of the pelvis.

## PHYSOMETRA, OR TYMPANITIS OF THE WOMB.

The term physometra, from the Greek words φυσα, gas, and μητρα, womb, is applied to an affection in which the uterus becomes distended with air or gas, either extricated within or accidentally introduced into its cavity.

The presence of aëriform fluids within the womb may be easily explained. In some cases, it is atmospheric air that has got into the viscus through the os uteri, which may have become partially dilated by a pessary, by *masturbation*, by coïtus, by a diseased conception, by the discharge of the catamenia or some unnatural flux, a transitory inertia or weakness of the fibres, a passive hæmorrhage, parturition, &c. Let it be supposed that, in this condition, a sudden spasm, a coagulum, a collection of mucus, a falling of the womb, some displacement, or any other cause, happens to close the orifice, then it is easy to conceive that the gaseous fluid may become rarefied, may distend the walls of the organ that contains it, and escape from its imprisonment, upon some sudden motion or effort made by the patient, or some slight pressure on the hypogastric region.

In other instances, the gas is extricated within the parietes from some chemical action, or the decomposition of coagula of blood, or of portions of the placenta left after delivery; or of a putrid fœtus, retained within the uterus. Whenever it happens, under such circumstances, that the torpor and atony of the womb prevent it from contracting and expelling the aëriform fluids within it; when the os uteri becomes spasmodically contracted, or is obstructed by a membrane, by a scirrhous tumour, or a polypus, or any other of the causes heretofore enumerated, symptoms of physometra become manifest; and they are variously designated by the terms *uterine tympany*, *uterine pneumatosis*, *flatulent pregnancy* and *wind-mole*.

Little is known of the nature and constitution of the gases developed within the womb. If we imagine the gas to be generally a sulphuretted hydrogen, we judge so, not from a chemical analysis, but from its odour; and especially, from the colour it communicates to the flame of a candle. Leduc, the surgeon, was witness to a very remarkable circumstance in this relation: he had scarcely withdrawn, with his crotchet, the putrid body of a fœtus, when there escaped,

with impetuous force, a quantity of gas, smelling of sulphur, and which burned with a violet-coloured flame. Baudelocque mentions a case in which a very fetid gas escaped as he was introducing the first blade of his forceps. M. Déveux states that having removed a clot that filled the mouth of the womb, an offensive gas escaped, with explosion, from the vulva; and another instance of a like kind, upon removing a portion of the membranes that occupied the os uteri. A fact of a very remarkable character, in pathological anatomy, was observed by Baudelocque, as he was about to proceed to the autopsy of a female who died in labour,—a loud explosion of gas from the vulva took place, and, at the same time, the fœtus was expelled with violence. Torally also reports a very curious case, in which the womb itself was inverted and pushed out of the body; which must have been caused by the very considerable extrication of gas in the bowels.

Although the formation of gases in the uterine cavity is mostly produced by the decomposition of the fœtus, placenta, or various collections of blood, or other fluids amassed within it, it cannot be denied, that in some of the instances, the aëriform gases are the products of an inappreciable morbid exhalation. This essential kind of physometra has been described and observed by several writers, among whom are Franck,* Mauriceau† and Delamotte. The *Revue Médicale*, 1830, t. iv. p. 484, quotes a case from a Bolognese work.‡ A woman, forty years of age, who had never borne any children, imagined herself pregnant, because her menses, always regular previously, had become suddenly suppressed, while the abdomen enlarged, so that the womb had reached the fifth month of development, mounting upwards as high as the navel. The os uteri was perfectly closed, and the uterus could be completely circumscribed by means of moderate pressure with the hands. Such was her condition, when all the hopes of the pregnancy vanished; one day, upon stooping down, a great quantity of flatus suddenly escaped from the womb; the belly was reduced, and after some days recovered its natural size. We are acquainted with a lady, twenty-eight years of age, who had been declared by several physicians pregnant, and who met with a similar disappointment while making a movement to get upon her bed.

The distension of the womb by gases, although a rare disorder, was also observed by many ancient authors, among whom we may cite Valescus de Taranta,§ J. M. de Gradibus,‖ Thaddeus Dunus,¶ Rembertus Dodonæus,** Ph. Hœchstetter,†† Mauritius de Cordibus,‡‡

* Epit. de curand. morb. de retent., t. i.
† Traité des mal. des femmes grosses, t. i. p. 74.
‡ Opusc. della Società, Med. Chirurg. di Bologna, t. iv.
§ Philonium. et Chirurg. de Med., lib. vi. cap. 15.
‖ Practica, seu Commentar. in Nonum Rhasis cap. de molâ.
¶ Mulier. morb. remed. miscell. cap. 8.
** Medicinalium observationum, exempla rara, obs. 49.
†† Rariorum observat., decade v. obs. 4.
‡‡ Hipocratis de mulier. morb. interp. et explic. in lib. i. comment, 3.

Ambrose Paré,* Ph. Salmuth,† Reinier Solenander,‡ Astruc,§ and others.

From cases noticed by all the authors, uterine pneumatosis has been more frequently met with in women who have had children than in virgins. It has been thought that the age from forty to fifty years is the one in which it mostly occurs, and that persons of a nervous temperament are most subject to it. Sauvage tells us of a hysterical woman whose physometra always disappeared shortly after the occurrence of her catamenia.

Authors have distinguished two kinds of physometra,—the dry and the humid. In the former, which is generally transitory, the womb contains nothing but gas, and does not, in general, surpass in size the volume of the gravid uterus of the third month. The latter or humid physometra, is so called because the womb contains, not gas only, but also a variable quantity of fluid, which may be serous, clear, turbid, muddy and fetid; this species, which was observed by Benedicti,‖ De Vega,¶ Laurent Jourbert,** Portal, Franck, &c., and which acquires a more considerable magnitude, since it is often mistaken for pregnancy, is distinguished from the former by the weight, mass and fluctuation of the tumour. Franck says that the gas occupies the upper part of the tumour, and that by making the woman change her position, the womb changes its form, and gives out a gurgling sound.

The same author remarks, that by taking the womb betwixt both hands, the sensation of a bladder filled with air is felt, and which is much more sonorous above than below. We may also ally with the physometric disorder, two other varieties that were noted by Franck. He says, (*loc. citat.*,) that a physician in Lorraine published a case in which a bladder full of air, (or a wind-mole) suddenly escaped from the womb and fell upon the floor, bounding like a ball. He also tells of a Dutch woman who, after being long subject to floodings, discharged a fleshy mass, containing a number of vesicles, some of which were full of a yellowish serum, and others with a gaseous fluid.

[I have been closely attentive to the complaints of patients under my care as to physometra, and I rest under the conviction, that the cases of the disorder that have fallen under my notice during the last thirty years, are not strictly entitled to the appellation of physometra. It is true that I have been conscious of the discharge of gas from the *uterus*, yet never but on one occasion, and that was during an embryotomy operation for a woman with distorted pelvis, who was twice afterwards subjected to the Cæsarian operation, in this city. In that case, the placenta was absolutely, when I removed it, putrid, black, and emphysematous from the extrication of the putrid gas

* Œuvres, livre xxiv. chapitre xc.
† Observat. medic. centuriæ, centur. ii. obs. 57.
‡ Concilior. medicinal sectiones quinque.
§ Traité des maladies des femmes, t. iii. p. 377.
‖ De Curandis morbis. lib. xxv. oper. omn. 1539.
¶ De Morbis. medend. libri tres, sect. 10, cap. 32, 1576.
** Operum. Latin, cap. 13, de urinis.

in its texture. I was, I say, conscious of the discharge of gases from this uterus, but they were the gaseous products of a putrefying after-birth—not a disease of the womb, nor at all fit to be called a uterine disorder, but a mere accidental extrication of putrid gases from a fœtus and placenta in putrefaction; this is the only case. As I have been a great many years very busily occupied in obstetric practice and in the treatment of female complaints, I should be supposed to have had good opportunities of becoming acquainted with the disease called physometra did the case really exist, except as an accident upon the mechanical obturation of the os uteri or vagina.

I do not perceive how a person of such good judgment as M. Colombat, can admit that a gaseous fluid could, under any other circumstances, be capable of filling the uterus. A gaseous fluid would escape from the os uteri under the contractility of texture of the uterine fibre alone; and, *à fortiori*, under that of the womb and abdominal muscles together—particularly since every inspiration of the breath finds its antagonist force at the floor of the pelvis. The pressure of such antagonism would always expel the gas from the uterus. Its stay in the womb would be impossible.

It is true, however, that I am accustomed not unfrequently, after labours, to hear loud explosions of air from the *vagina;* but I do not regard them as the results of a true physometra, as I suppose they consist of portions of air, ingurgitated into the loose and flaccid walls of the vagina, upon the cessation of the expulsive effort of the womb immediately after the escape of the fœtus. The womb, in this state, is jammed down to the bottom of the pelvis almost, as the child goes forth from its cavity—and as soon as the tenesmic effort is suspended, it rises again to its place, and acts in the manner of a piston, drawing after it into the vagina a portion of air, which is again expelled when the woman renews her effort at bearing down for the delivery of the placenta. This is the mode in which I account for the noise so frequently heard upon the woman's making a bearing-down effort. I delivered a patient of a child at seven o'clock this morning, Nov. 14, 1844. It was a case with adherent placenta. The patient bore down with great force until the whole of the child was expelled, and of course the globe of the womb, containing the undetached placenta, was pushed very low down, in order to chase the fœtus quite out of the body. As soon as the effort ceased, I heard a great sound as of the ingurgitation of air which rushed into the loose vagina and the expanding womb. In a short time afterwards I compressed the lower belly with my hand, to promote the expulsion of the placenta—and upon doing so, I forced the ingurgitated air to rush out again, with amphoric sound nearly as great as that made by its ingurgitation. But is this accident at all worthy to be called physometra, a dynamic state, and fit to establish a belief in the power of the inner walls of the womb to excrete gaseous fluids? The same thing is true of the supposed physometra of the non-gravid female, or of the woman two or three months gone with child. If she happen to have a loose and flaccid vagina, with a heavy womb, that organ

descends more or less, from her being long on foot—and then, when she lies down, it again ascends to its place, drawing imperceptibly after it, enough air to occupy the vagina. If now she should cough or sneeze, or make pressure on the hypogaster, or suddenly get up from the couch, the air is as suddenly expelled, with more or less sound. Such is the explanation of this occurrence I have been accustomed to give to the patient, who is generally found to be much distressed with so unusual and disagreeable a phenomenon, and I have always explained it by the same rationale to my classes, in the public lectures at the Medical College. I cannot but add, that I have never known it to take place except in women somewhat low in health, and of weak and relaxed fibre, excepting always the instances following labour, where the state of the woman's general health is indifferent in the calculation; the strongest and the weakest subjects seeming alike liable to the occurrence. Franck's citation of the Lorraner who saw a ball full of air bounding on the floor, must be deemed, I fear, as in the apocrypha of physic; and old De Vega, Joubert Valescus de Tarenta, Mathæus deGradibus, and even faithful old Paré, are not of sufficient authority to settle this point in the affirmative. What satisfies me is, that the canal of the cervix uteri is always free to admit a full-sized bougie—and to emit the menstrual secretion *pleno rivo*. Who shall convince me that it shall become air tight? Not even M. Baudelocque himself, who is the *magna parens* of scientific midwifery.

The *Bulletin of Med. Sciences*, by Dr. Bell, for Sept. 1844, p. 309, contains an article on Physometra, of which the following are extracts. The article is from the British and Foreign Review. "M. M. Stoltz and Nægele, two of the most celebrated practitioners in the diseases of females of the present day, at the Medical Congress, held at Strasbourg, in 1842, expressed their belief that tympanitis of the uterus was impossible; and that the alleged cases of its occurrence were apocryphal." The article contains remarks on several cases seen by M. Lisfranc, and proceeds to say that "M. Lisfranc does not appear to have seen any case in which tympanitis was purely *dynamic*, that is, independent of the presence of any extraneous substance in the womb." Dr. Waller, (*Lectures on the Functions and Diseases of the Womb*, p. 75,) seems to admit of the disorder, as he says, "The constitution of those who suffer from this disease is very generally weak and delicate, a collection of air in the cavity of the womb not being the only symptom under which she is suffering, but one in common with many others. The air appears to be *secreted* by the menstruating membrane of the uterus; for if pregnancy occurs, the disease is for a time, if not permanently, cured." To think of the womb "*secreting*" air!—M.]

The symptoms of physometra consist in a feeling of uneasiness and tension in the hypogastric region; the woman complains of a pain, beginning in the womb, and running off towards the groins, loins, thighs, and, in some instances, even to the diaphragm. In most cases the menses are suppressed, yet there are some women who continue

to have them regularly. The abdomen, which enlarges, presents a uniform, circumscribed tumour, tense, and resounding upon percussion like a drum. The womb, which gradually rises above the pubis, tends towards the umbilicus, and may even reach above it, does not increase in weight, though having acquired, as in many instances, considerable magnitude. This evolution is sometimes accompanied with thirst, anorexia, rigors, and slight fever, increasing generally towards evening: the excretions of stool and urine are more or less disordered; the patient has some respiratory uneasiness; becomes inactive, dislikes to move, and it is, indeed, not uncommon for the uterine distension to excite sympathetic action of the breasts, which swell, and even secrete a sort of milky fluid.

In this state of things, the expulsion of a portion of gas from the vulva gives relief; and, generally speaking, an abundant discharge of it, which is commonly accompanied with noise, dissipates all the symptoms of the malady. This sort of uterine eructation may happen at very various periods: it is rare, however, for the gas to be retained within the womb beyond five or six months. Under such circumstances, the menses not returning, the woman is apt to suppose herself pregnant, and the more so, as the feelings she experiences resemble those occurring in pregnancy.

A case of physometra could hardly be mistaken for pregnancy, except during the three or four first months: in fact, from that period, the little alteration that takes place in the cervix uteri; the absence of the *ballottement* (tilting;) the lightness of the tumour; the daily differences perceived in the form and size of the tumour; the resonance on percussion; the negative stethoscopic signs; the rapid increase of the abdomen; the absence of the motions of a child in utero, &c., should leave no doubt in the mind as to the nature of the affection. An error would be absolutely unpardonable, should the woman be of an age, or in a situation, to render it improper for her to conceive.

[I have seen some cases of supposed pregnancy, in which medical gentlemen, of sufficient information, had allowed themselves to be deceived, and permitted the patient to go to the end of the supposed term before the error was ascertained. Yet, in all these cases, and they have been many, I never allowed myself to suppose, even for a moment, that the womb was the seat of the flatulent development; and I entreat the younger reader to distrust M. Colombat's remarks as to the results of the sur-pubal percussion, above stated; because, though he may find, in such case, the sonorous percussion, I conceive he will have no ground to infer that the resonance *is* uterine, and *not* intestinal. I must also take so great a liberty with the author, as to re-assert my disbelief (*vide* p. 368) in the existence of the malady he has so fully described; I look upon it as a pathological impossibility; I repeat that the supposed gases could not be retained in the womb, except under an absolute imperforation of the vagina or cervix; and, in such event, there could be no such gases extricated or expelled. I confidently believe that where the womb, under physometra, has been thought to extend up to the

navel, there has been a mistake of diagnosis, or a voluntary deception on the part of the patient. Such mistake, or such deception, is easy to be made, since the bladder, when filled with urine, could easily be mistaken for the uterus itself, and yet yield a sonorous percussion from the transmitted resonance of the intestines behind and below it.

Finally, I regard the cases of physometra as likely, all of them, to prove, upon a careful diagnosis, to be cases of chronic tympany; an affection so common in nervous and hysterical women, as to be frequently met with in practice. Having offered these remarks, I continue the translation of M. Colombat's article, of which, let the reader judge, as follows.—M.]

The diseases with which physometra may be confounded, are to be divided into three classes. The first comprises the affections that consist in increase of size of the womb itself, as pregnancy; dropsy of the womb; accumulation of blood, or a collection of hydatids within the organ; a polypus or mole; concretions, whether calculous, lymphatic or sanguine; hysteria, &c. In the second class are comprised the morbid changes that supervene in the uterine appendages; such as scirrhus and dropsy of the ovary; ovarian and tubal pregnancy; and, lastly, in the third class are arranged divers abdominal disorders, such as ascites, intestinal and peritoneal tympany, purulent collections and tumours of the omentum, of the mesentery, or of the abdominal parietes. Though the number of these affections is very considerable, all ridiculous as well as serious mistakes will be avoided by attending to the origin and progress of the disease, and by prevailing on the patient to submit to the slightest examination. Besides, *le pet vaginal* would furnish a very conclusive sign, could its existence be ascertained.

It must likewise be remembered that a physometra may not only co-exist with a hydrometra, but that these disorders may alternate with each other, particularly as they appear to arise from the same causes, acting in different degrees. In the case of hydrometra, the development of the abdomen proceeds gradually, while, in physometra, it is commonly sudden. In the latter, the tumour, which is more elastic, recovers its size quicker, and gives rise, upon pressure, to the sensation of a bladder filled with air and squeezed with the hands.

For the most part, the *prognosis* in physometra is not very grave; if there be any danger in the case, which is often very protracted, that danger arises less from the malady itself than from the pathological lesions and alterations that give birth to it, and of which it is but a secondary symptom: even where it is essential, it constitutes rather an inconvenience than a real disease.

The *treatment* of physometra consists in fulfilling the two chief indications of giving issue to the aëriform fluids, and preventing their development or their introduction. As pneumatosis of the organ may depend upon the numerous causes we have mentioned, we ought first to try to ascertain what they are. Should the formation of the gases and the obstruction of the os uteri depend upon a fœtus, a pla-

centa, a portion of membrane, or a fibrinous clot in a state of putrefaction, and retained within the womb, we should follow M. Deneux's example, and remove the obstruction with the point of the finger, and then prescribe injections of emollients and chlorides. Should the physometra be complicated with a polypus too large to be extracted without aid, we might adopt Dupuytren's method, of slitting the cervix uteri, either from without inwards, or vice versâ; yet we are of opinion that, in order to obtain a sufficient enlargement, without carrying the incision too far, it would be preferable to make several small incisions into the circumference of the os uteri. In case the tympany, whether essential or introduced into the womb from without, be deemed to depend upon spasmodic constriction of the neck, or on inertia of the uterine fibres, we should, in the former state, order emollient uterine injections, baths, and fumigations; opiate draughts, and anodyne injections into the rectum; after which, by the use of the speculum, portions of belladonna ointment might be carried up to the cervix uteri, or introduced into the vagina as far as the os tincæ, which should be titillated, while, with the other hand on the hypogastrium, pressure is made on the womb, so as to press out the gas In the latter case, which is when the tympany depends upon inertia of the womb, directions ought to be given for the employment of tonic drinks, of stimulating frictions for the abdomen, and of small doses of ergot, to excite the uterus to contraction. Where the woman seems weak, which is common, her strength should be sustained, not as to the womb only, but as to the general system, by chalybeate medicines and ferruginous waters, decoctions of cinchona, pills of quinine, gentian, and other tonic articles; by stimulating frictions and vinous fomentations; by placing hot flannel on the hypogastric region, which is of much use in the treatment. We might also condense the gas in the womb, and at the same time increase the irritability of the viscus by covering the region of the uterus with a bladder, filled either with ice or with cold water.

For a strong patient, young and plethoric, blood-letting, general or local, may be beneficial. After trying all other remedies in vain, and clearly ascertaining the non-existence of pregnancy, and especially should any bad consequences happen to follow the collection of gas in the organ, it might be withdrawn by gently introducing a flexible catheter into the cavity through the canal of the cervix. It would be well to attach to the outer extremity of the catheter an empty bladder, in order to collect the gases expelled, for the purpose of subjecting them to a chemical analysis. After their evacuation, attempts should be made to prevent a relapse, by the use of baths, lotions, douches and tonic injections, or the injection of anodynes, opiates, emollients, detergents and chlorides, according to the indications and circumstances of the case. With a view to determine the expulsion of gases from the womb, it has also been recommended to use purgative medicines, leaping, dancing, and different kinds of violent exercise. Such methods ought to be rejected, as well as all sorts of carminatives, which are rather injurious than useful.

We shall conclude by observing, that there is another kind of pneumatosis of the female sexual organs, called by writers *Œdocophy* garrulitas vulvæ* and *pet de la vulve.* Œdocophy, which is rather an inconvenience than a disease, is the expulsion, more or less noisy, of gases contained in the vagina. These aëriform fluids may get into the passage through a recto-vaginal fistula, or directly through the vulva, during the separation of the labia pudendi. According to Franck, this troublesome complaint is more frequent than is generally supposed; and the reason why physicians rarely hear of it, is that women, from a feeling of modesty, dislike to make their infirmity known; it is apt to occur in coïtus in such patients. Lame women, who limp in their walk, appear to be most subject to it, probably from the alternate dilatation and closing of the passage while moving on foot.

[I shall finish this article by quoting a passage from Madame Boivin and M. Dugès, *Pract. Treat. on Disease of the Uterus*, p. 134. It is in the following words. "We have never known the existence of an aëriform body in the uterus, except in obstetric cases, as in retention of the membranes, or of portions of the dead fœtus, or of putrefied coagula, causing gaseous exhalations found in the uterus after death, or escaping per vaginam during life." It is true, that they add, at p. 136: "The symptoms of physometra are too characteristic to admit of any doubt, after careful examination," &c. I merely wish to remark, that the immense public and private practice of the authors, ought to have made them acquainted with physometra, were it really a disease.—M.]

## OF HYDROMETRA, OR DROPSY OF THE WOMB.

Hydrometra is a very rare disorder, and consequently but little known; it is nothing more than a collection of serous or sero-mucous fluid in the cavity of the uterus.

The *causes* of the disorder are a feeble constitution debilitated by floodings, by profuse and protracted leucorrhœa, by miscarriages, by frequent hysterical attacks, a fall or blow on the hypogastrium, an acute or chronic metritis, or any cause capable of keeping the womb in a state of debility or protracted irritation. We ought to add, that although such causes may give rise to a considerable secretion of fluid into the cavity of the uterus, an attack of hydrometra cannot occur unless the os tincæ be closed, either by the cohesion or swelling of the labia of the os uteri, or from fungoid tumours, a polypus, or, in a word, any one of the obstructions we enumerated in our article on physometra. Although cases of hydrometra are very rarely met with, they would be still more uncommon, should we comprise under that denomination only the real instances of a production and retention of serous fluids within the cavity of the womb. But the disorder, which is not met with in virgins, is symptomatic, and is found to follow various alterations and inflammations, whether

* Αἰδοια, *the sexual organs*, and χοφεω, *crepitum edo.*

acute or chronic of the uterus. In such cases, the fluid, instead of being bland and limpid, is found to be thick, fœtid, bloody, opaque, and somewhat similar in appearance to coffee grounds and to *lotura carnium*. Schenck, of Nuremburg, in his valuable collection of cases, (lib. iv., case 220,) published A. D., 1600, takes notice of this sort of symptomatic hydrometra, and of the brown, muddy, fœtid liquor contained in the organ.

Under the title, therefore, of hydrometra, has been comprehended any collection in the womb, consisting of fluid, whether serous, albuminous, sero-mucous, or purulent, whose quantity, colour and consistence vary according to the causes producing them. Sometimes the cavity contains scarcely a pound or two of fluid, and at other times it is found to be distended, so as to give rise to a belief that the patient is pregnant, or labouring under ascites. Blankard* relates the case of a woman, whose uterus contained eighty-five pounds of ichorous and oily matter. Vesalius, (opera omnia,) says, he examined the body of a woman whose uterus contained sixty measures of water, of three pounds each. Theophilus Bonnet† quotes several cases not less curious, and John Schenck,‡ who died in 1588, asserts that he found a womb large enough to contain a child ten years of age.

*Symptoms.*—The size of the abdomen increases with more or less rapidity, and the swelling, which commences in the middle of the hypogastrium, gradually extends from below upwards. During the first months the woman supposes herself pregnant; the breasts either lessen or increase in size; the countenance, which is bloated and pale, bears the impress of languor; she has a feeling of weight in the pelvis, pains in the loins, dragging sensations in the groins, and sometimes a slight degree of fever. By the touch, we discover a rounded and firm tumour in the hypogastrium, which appears to come up from the pelvis, to a certain height, greater or less. The position of this tumour is very little changed by the changes of her position, and we find a deep-seated, obscure, circumscribed fluctuation in it; but the least equivocal sign is that ascertained by Touching; in fact, by introducing a finger into the vagina as far as the cervix uteri, and then pressing the tumour with the other hand, we readily feel the shock of a fluid, and a very distinct fluctuation. This is not a symptom of ascites nor of dropsy of the ovaria, or tubes; for in those affections, the cavity of the uterus is not distended with fluid, but the organ is itself jammed down towards the bottom of the pelvis without any increase of size.

The *diagnostic* characters of hydrometra may be supposed somewhat more obscure from the rarity of the opportunities for studying them; and as it may be confounded with pregnancy, particularly in the early months, it is of the utmost importance not to mistake the symptoms of one for the other condition. Such errors, which might have the most serious consequences, may be avoided by calling to

* Anat., &c.; sive. de cad. morbis de nat. anatom. inspectio, 1688.
† Sepulchretum, seu anat. pract., lib. iii. sect. xxi. case 55, 1688.
‡ Obs. med. rarum. nov. admir. et monstr. volumen lib. iv., obs. 6.

mind the fact that in dropsy of the womb there is absence of ballottement which is ascertained by Touching, and that the abdominal palpation and auscultation by the stethoscope, reveal neither fœtal movements nor beatings of its heart. Finally, the absence of resonance in the tumour, and its fluctuation will not admit of its being mistaken for a case of pneumatosis of the womb. It is equally important not to confound the disease in question with a collection of blood in the organ. The symptoms we have given of the latter, at page 89, would soon remove all uncertainty upon this point.

The *prognosis* of hydrometra varies with the causes of the malady: in general, it is not so unfavourable, when a portion of the fluid is allowed from time to time to escape, as happens in some instances. Fernel, who was physician to Henry II., mentions a case of dropsy of the womb, which disappeared once a month, and was renewed after each mensual evacuation.* Generally speaking, the disorder is not very dangerous, and whenever it does give rise to any apprehensions, they are derived from the circumstances which have occasioned it, and from the frequent repetition of relapses. In some cases it ceases towards the term of gestation, or the evacuation takes place about the third or fourth months, and in such cases it often happens, according to Mauriceau and Nauche, that the disease returns no more.

When the liquid is limpid and inodorous, we find, on examination after death, the lining membrane of the womb nearly in a natural condition. Where the collection is thick, purulent, ichorous and fœtid, the mucous membrane of the womb exhibits traces of chronic inflammation and ulceration of different kinds.

Hydrometra is more frequently met with in pregnant than in non-gravid women. Here the symptoms of the uterine dropsy are confounded with those of gestation. The abdomen is larger than in a simple pregnancy; the dyspnœa is also greater and more distressing; the lower extremities are œdematous, and the infiltration often extends over the whole body. The motions of the child are commonly obscure, the cervix is higher up in the pelvis from the greater development of the womb, and the child, following the impulsion of the mother's movements, is tilted in every direction in the midst of the waters.

As few occasions have offered of examining the body after death with hydrometra during gestation, authors are far from agreeing as to the seat of the morbid fluid in pregnant persons. Mauriceau, Puzos, and Mess. Itard and Nauche, together with some other writers, have placed it between the chorion and the internal surface of the womb; M. Nægele, and some other persons, supposed the collection to be formed betwixt the laminæ of the caduca; others, again, like M. Dugès, imagine that the fluid of hydrometra (in pregnancy)

* Marcellus Donatus, (Medic. histor. mirabil. lib. iv., cap. 25,) and D. Monro, Essay on Dropsy, p. 164, say that they have observed the menstruation to be regular in women labouring under hydrometra; this phenomenon, of which Donatus himself gives an explanation, could be derived only from a sanguine exhalation from the vagina and os tincæ, as takes place in certain cases of gestation.

is contained in the sac of the allantois, betwixt the chorion and amnios. As all these opinions are founded only upon theory and ingenious explanations, all of them debatable, we conclude that the question is still open, and likely to continue so for a long time.

The *treatment* of hydrometra consists, at first, in combating the organic disease of the womb, of which it may be only a secondary symptom. Where the affection is essential, the womb appearing to be sound, and clearly not gravid, we may, for the purpose of giving a shock, in accordance with the advice of Monro and Astruc, and most other authors, have recourse to the drastics, to emetics, to sternutatories, or to irritating injections, and to vaginal injections of the same kind, with a view to excite the uterine contractions. It should be observed, however, that before resorting to the measures above indicated, it would be well to soften or relax the cervix uteri as much as possible, by means of baths and emollient and narcotic injections and fumigations. Some broken doses of secale cornutum, exhibited conjointly with an application of belladonna ointment to the os tincæ, might probably be prescribed with advantage where the cervix is soft, and the obstacle to the discharge of her waters does not consist of a polypus, or a scirrhous tumour, but is due solely to the inertia or the spasmodic constriction of the neck of the womb.

In some cases, a finger, a blunt stilet, or, still better, a straight silver or gum-elastic bougie introduced into the os uteri, has been employed to open the orifice and procure the discharge of the fluid. In case the obstacle should consist of a polypus that could not be pushed out of the way with the point of a finger, we should try to penetrate to the cavity of the womb with a flat catheter, passing along the side of the polypus, the subsequent removal of which might lead to a radical cure.

Should these measures, as sometimes happens, prove to be inefficacious, a trocar might be made use of to puncture the womb. Francis Wirer* performed the operation successfully, by passing the trocar an inch and a half above the pubis, and at the same distance from the linea alba. Fifty-three pounds of a thick, blackish, bloody liquid escaped through the canula; steady pressure was afterwards kept up with Monro's bandage and several napkins; the patient, who was fifty years of age, was completely cured; for ten months after the operation, there was no return. The sub-pubal puncture was also performed with advantage by Noel Desmarais, in a case of hydrometra coincident with pregnancy. In that case, as in simple dropsy of the womb, we should prefer the puncture through the orifice of the uterus, as recommended by Huermann,† Zanc‡ and others. However, as hydrometra might possibly be confounded with true pregnancy, and as the operation might be followed by fatal consequences, as in the case reported by Cruveilhier,§ too much reserve could not be employed in the use of a measure never

* Loder's Journal, th. iv. st. 2. p. 300; and annal. litt. med., &c., t. ii. p. 290.
† Abhandl. von den Vornehemsten chir. op., th. i. nap. 5, s. 186, p. 410.
‡ Darstell, blut. heilk. operat., th. iii. abhand. i. 289.
§ Anat. patholog., t. i. 281.

to be attempted except as a last resource.* We conclude by remarking, that whatsoever be the mode by which the liquid may have been discharged, we should provide against a relapse by the prescription of mild detergent injections, by keeping the cervix open for some time with a small gum-elastic bougie, and by combating the general as well as the local symptoms which may have been deemed the causes of the secretion.

## OF HYDATIDS OF THE WOMB.

Notwithstanding the existence of abdominal hydatids was known to the highest antiquity, for they are mentioned by Aretæus,† Aetius‡ was the first among the ancients to speak of those of the womb. These morbid productions, classed among the acephalocysts, compose a peculiar class of vesicular worms, which, though well described as far back as 1805, by Laennec, is not yet admitted by the German and Italian helminthologists.

Two species of hydatid acephalocysts have been admitted: 1. Acephalocysts in bunches, or pediculated hydatids; 2. Free acephalocysts; of which there are two varieties: 1. Hydatids with claws, and, 2d, single hydatids, which are not provided with claw or pedicle.

The pediculated hydatids, or acephalocysts in bunches, which are found only in the womb, and which are at present regarded as transformed products of conception, or as cysts in a peculiar state, are produced not only in certain abortive pregnancies, but occasionally also in true pregnancy.

The pediculated hydatid is a vesicle of a white or amber colour, and consists of a membranous cyst, filled with a transparent limpid fluid, that is sometimes reddish and of a gelatinous consistence. They float in a serous liquor, and adhere together each by a very delicate pedicle, which is attached to a large pedicle after the manner of a bunch of grapes. They contract adhesions either to the membranous bag that encloses them, or to the walls of the uterus, to the umbilical cord, to the placenta, or to a fleshy mole which they are sometimes observed to accompany.

Hydatids with claws are of a lenticular shape; they are few, and not so large as the preceding; they develop themselves in the vagina, and within the rugæ of the orifice of the womb; but they are always found there in considerable numbers. Generally speaking, they are covered with an extremely thin membrane, and adhere by their claw to the point upon which they commenced their existence.

The non-pediculated acephalocyst, without the claw, has been more particularly observed in the ovaries, and in the Fallopian tubes

* In order to avoid the puncture, Sanctorius invented a sort of small-jointed speculum, designed to open the mouth of the womb, evacuate the water, and admit of injections into the cavity. (Comment in prim. fen. canon Avicennæ, p. 608.)

† Aretæus de causis et signis diuturn. morb., lib. iv. cap. i.

‡ Med. contractæ tetrabib. iv. serm. iv. cap. 79.

when dropsical. Their form is that of an egg-shaped sac, of a whitish mother-of-pearl colour, of soft and fluctuating consistence. They are always free, sometimes single and isolated, but generally numerous, and contained within a common cyst filled with fluid, in which they float without adhering to each other. The cyst that serves as their envelope, and which is chronically inflamed, is liable to become much thickened, gives out when compressed a sort of crepitating sound, that may be compared to the sound produced by squeezing a snow-ball in the hands..

The specific gravity of the free hydatid is scarcely greater than that of water; their walls are thin and without any demonstrable vessels; they are mostly diaphanous, but sometimes are grayish, opaque or amber-coloured; the texture is homogeneous and without fibres; though pretty extensible, it resembles half-cooked white of eggs, and separates into several layers, particularly in the larger hydatids.

Whilst we admit that the free acephalocyst of the non-gravid womb may be possessed of vitality, we think, on the other hand, that the hydatid vesicles, resulting from morbid transformation of the placenta are not endowed with an individual independent life, but like the serous cysts receive their life through the pedicle that sustains them. A circumstance that militates in favour of this opinion is that when removed from the situation in which they were originally developed, they become wilted or shriveled, and perish, like other serous cysts, as soon as the stalk that unites them with the surrounding parts, is destroyed. Instead of moving in water, and even in the palm of the hand, as stated by Percy,* the placental vesicles exhibit merely a sort of tremor and undulation produced by a fluid contained within an extremely delicate elastic membrane.

The fluid contained in the bunch-like hydatids, is perfectly limpid; its density is less than that of distilled water; it turns syrup of violets green, is not coagulable by heat nor alcohol, which proves that it is not albuminous, and is similar in character to the fluid of the free acephalocysts.

*The causes of hydatids of the womb,* and other female genital organs, are but little understood; it is supposed, however, that a lymphatic temperament, a chronic leucorrhœa, a suppression of the menses, and whatever may excite or keep up an irritation of the sexual organs, may contribute to the production of the disorder.

The *symptoms and diagnosis* of hyatids are very obscure. In the commencement of the disorder, it is generally confounded with pregnancy or with hydrometra, nearly all the external characters of which it exhibits, except that the distension of the abdomen does not proceed rapidly, nor to so great a degree. The mere presence of hydatids within the uterus produces, *per se*, very trifling consequences; but as the vesicles increase in number and magnitude, the hypogastric region becomes flatulent, soft and swollen. Upon Touching, the womb is found to be much larger than in the natural state, but its orifice continues to be somewhat open, and scarcely altered

* Jour. de Méd., par Corvisart, Leroux, and Boyer, Sept. 1811.

either as to its shape, or position in the pelvis. Palpation of the hypogastrium reveals a globose, compressible and indolent tumour, which has an obscure fluctuation when compressed from above in a downward direction. In most cases, the tumour yields almost all the symptoms of pregnancy; the menses are suspended, or are superseded by signs of flooding, more or less, which recur at irregular periods; sometimes the breasts swell, a weight in the pelvis is felt, with very severe pains in the uterus, and in the inguinal, hypogastric and lumbar regions. Sooner or later the woman, after having been a prey to sufferings and losses of blood, and with pains as violent as those of child-birth, suddenly discharges a quantity of vesicular hydatids, which come away altogether or at several different times, and accompanied or not with a fœtus. The product of such a labour is what is called an hydatid mole or a hydatid dropsy, or vesicular dropsy. *Hydrometra hydatica, vel vesicularis.*

The species of pregnancy resulting from the presence of pediculated hydatids in the womb, does not, in general, proceed beyond the sixth or the seventh month, yet the expulsion of the vesicles has been known to take place so late as the fourteenth month. To assist the escape of them, it has been necessary to use injections of a mixture of vinegar and salt in water, and in some instances to carry the hand into the womb for the purpose of rupturing the sac which contains them. After such a labour, the patient commonly experiences all the symptoms that usually follow a regular accouchement, such as discharge of lochia, milk fever, swelled breasts, metro-peritonitis, &c.

When the discharge of the hydatic bunches does not take place soon enough, the woman, who emaciates rapidly, is liable to syncope and frequent floodings; and in addition to these symptoms, there are sometimes conjoined œdematous swelling of the limbs, a bloated state of the face, hectic, marasmus and death.

Notwithstanding the vesicular hydatid, with or without an accompanying embryo, is never met with except in the condition of maternity, the real acephalocyst of the uterus may be found in the virgin state, and hydatids, properly so called, may originate in the womb, as well as in any other part of the body. The celebrated Percy relates a case that removes all doubt on this point, and in which it appears that he succeeded, by undeniable proofs, in preserving the reputation of a canoness of twenty-six years of age, who had been subjected to the most unjust suspicions.

The expulsion of the acephalocyst is the only pathognomonic sign of uterine hydatids. After the womb has contracted, the patient is to be treated in the same manner as after a natural delivery; and when all signs of irritation are gone, she should have bitters, tonics, chalybeates, frictions, and aromatic fumigations to the genitalia, for the purpose of restoring the strength of the constitution, and preventing the formation anew of the hydatid vesicles.

Hydatids, that have neither pedicle nor unguicle, and that are only met with in certain cases of uterine or ovarian dropsy, require no treatment beyond that addressed to the primary affection. The signs of them are also similar, for their presence is not discovered until

they are found escaping with the fluid, or obstructing its escape when a puncture has been made, for the purpose of drawing it off. The unguicular hydatid, which is the most rarely met with, and which forms in the vagina and upon the neck of the womb, gives rise to few symptoms; when discovered by means of the speculum, all that is necessary is to detach them, and prevent their reformation by attention to cleanliness, and particularly by using vaginal injections of sulphur water, or weak decoctions of the oak or pomegranate bark.

As the mode in which the hydatid is developed and reproduced is as yet wholly unknown, we feel it unnecessary to bring forward in this place the opinions of Ruysch, Albinus, Morgagni, Boerhaave, Vallisnieri, Morand, Pallas, Reuss, Baer, Percy, Bremser, Désormeaux, Bichat, Laennec, Sœmmering, Cloquet, Breschet, Cruveilhier, Andral, Velpeau, Raspail, and many other writers, whom it is not requisite to enumerate.

## OF CALCULI OF THE WOMB AND OTHER GENITAL PARTS.

There are numerous cases that show clearly that calculous concretions may be formed within the cavity of the womb. Hippocrates speaks of the servant of Dyseris, of Larissa, who, at sixty years of age, was seized with pains as strong as the pains of labour, and discharged a stone as large as a *peson*. Ætius also makes mention of uterine calculi, and recommends that they should be extracted by an incision of the cervix.

Most of the cases reported by writers of the last few centuries, have been collected by Louis, in a memoir inscribed among the *Mem. de l'Acad. de Chirurgie.* They contain an account of a girl sixty years of age, who introduced into the *uterus*, [vagina M] a stone the size of a hen's egg, without being much incommoded by it. It weighed nine drachms and a half. Another woman had a calculus which weighed but four ounces, and which, according to Louis, might have weighed a pound, had the material not been so porous. The symptoms felt by these women were difficulty in walking, and itching of the vulva and internal surface of the thighs, while, in some of the cases, the symptoms were still more slight from the smallness of the calculi; in others, the patients fell victims to the exhaustion arising from profuse suppuration, from ulceration, and a local degeneration, produced by the presence of calculus in the womb.

In these unfortunate cases, not only were calculous concretions found after death, within the cavity of the uterus, but the body of the viscus was ascertained to have been converted into a substance resembling dried tallow. The same author says, that in one of the women the parietes of the womb were ossified, and, as it were, moulded round the calculus. He also adds, citing several instances, that in the more fortunate cases, the lithic concretions have been expelled by the spontaneous powers of the womb.

The cases collected by Louis, and those published by Regnier de Graff, Swammerdam, Walther, Van Swieten, Morand, &c., leave no

doubt upon the subject of uterine calculi. One of the most curious cases is that by Bartholin, who mentions a rough black calculus weighing four pounds, taken from the womb of a peasant woman. Bromfield also speaks of concretions, as large as a child's head, formed in the cavity. Finally, another case, quite as remarkable, is the one reported by Ruysch, (loc. citat.,) who informs us that he removed from the womb forty-two calculi of different sizes. Were it not for fear of trespassing on the limits assigned for this work, we might quote many curious examples from Marcellus Donatus,* J. Schenck,† Theoph. Bonnet,‡ Steph. Blancard,§ Michael Morus,‖ J. Lieutaud,¶ Joubert,** M. Nauche,†† and some from more modern writers.

The *causes*, under the operation of which uterine calculi are formed, are still imperfectly known. The celebrated Louis, whose opinions upon the subject are adopted by most of the modern pathologists, thought that they proceeded from the aggregation of the more solidifiable portions of the morbid secretions of the organ in the same manner as urinary and biliary calculi are formed in the bladder or the biliary cyst.

Professor Roux, in his *Mélanges de Chirurgie*, emits the more probable opinion that the calculi met with in the womb are produced from the ossification of fibrous tumours developed with the organ, or in the substance of its walls. Pecquet‡‡ reports two instances that favour this view of the question, and adds, *adeo ut pro scirrhis lapidescentibus haberi debeant prædicta corpora.* According to M. Roux, fibrous tumours, while undergoing alteration, become gradually ossified, or at least, are invested with a covering, more or less thick, composed of the saline residuum of the uterine mucus. What militates in favour of this opinion of the distinguished surgeon of the Hotel-Dieu, is that a chemical analysis of one of these calculi, proved it to be composed of a considerable quantity of animal matter in combination with salts of potassa, soda and lime.§§ In another calculus, of the same kind, M. Amusat found phosphate of lime and gelatin.

Concretions of the womb may also arise from small concretes, or fragments of an embryo that may have passed down through the Fallopian tubes, in a case of extra-uterine pregnancy. They may likewise owe their existence to the ossification or incrustation of a hardened mole, or of hydatids, or an embryo, or fœtus that had perished at an early stage of pregnancy; or, in fine, to foreign bodies brought into the womb, which have, in some examples, constituted the nuclei of concretions. Brugnatelli, who gives the chemical ana-

* De histor. medic. mirabili. lib. iv. cap. 30, 1586.
† Observat. méd. rar. nov. admirand. monstr. lib. iv., 1600.
‡ Sepulchret. seu anatom. practica. lib. iii. sec. 24. obs. 18, 1679.
§ Anat. prac. ration: sive varior. cadav. morb. &c., obs. 74, 1688.
‖ Acta eruditor. Lipsien. August, anno 1712.
¶ Histor. anatomic. méd. sistens numer. cadaver. human. t. i. p. 340, 1767.
** Mem. de l'Acad. de Chirurg., t. ii. p. 140.
†† Maladies des femmes, t. i. p. 214.
‡‡ Exper. Nov. Anatom. 1651. M. Nauche also relates a case met with at la Salpétrière in 1799.
§§ Revue Médicale, tom. ii. p. 301, ann. 1824.

lysis of several of these calculi, says that one of them, weighing about two ounces, and of a peculiar odour, was an amorphous mass with an irregular surface, and of a whitish colour. Being insoluble in water, it was broken by a blow with a hammer, and no little surprise was felt to find within it part of the tibia of a chicken. Probably the whole bone had been introduced under an attack of erotomania, and had served as the means of a shameful and disgusting manœuvre.*

The symptoms of calculus in the womb are either null, or, in some of the cases, very obscure—however, the patient generally suffers from dull or pungent pain in the hypogaster, and a feeling of weight in the back and groins. To these symptoms are added an intolerable pruritus of the vulva, and mucous, purulent and sanguineous discharges from the vagina. The pains increase, or return at intervals, and sometimes become so acute that they end in the spontaneous expulsion of the calculous matter. The presence of these foreign bodies interferes with the urinary and alvine excretions: and when they are situated near the neck, and especially when the os tincæ

* In No. 3., Jan. 6, 1838, of la Lancette Française, we read a very curious case which we quote as related in that excellent journal, from an English periodical.

"A woman, habitually subject to suppression of urine, was seized, on the tenth of June, with total suppression of urine. A physician being called in, she was relieved by the catheter. The suppression continued for two months, so that the patient could not empty her bladder, save by the catheter, which the physician introduced twice each day. At the end of this period, being unable to defray the expense, she introduced the catheter herself, making use, for the purpose, of the stem of a tobacco pipe. She was successful for some time, but at length the tobacco pipe broke in the urethra, and her attempts to extract it, forced it into the bladder, where it was lost.

"The accident happened on the fifteenth September. The woman now procured a metallic catheter, and continued the use of it, having forgotten, as it were, the foreign body in the bladder, until the twenty-seventh April. At that time she was seized with pains, like labour pains. M. H. Martin, who was called in, examined the parts, and found the pipe-stem in the cavity of the womb. One end of it was projecting from the os uteri, and was so strongly grasped by the organ, that he was, for its extraction, obliged to make use of a pair of pincers, and use considerable force for the purpose. The extraction was quite a difficult task, for the pipe-stem broke several times while he was doing it.

"Three years afterwards the woman died with phthisis, and her genito-urinary organs presented the following appearance upon dissection:

"The bladder was thickened, and contained no foreign body. At its left side not far from the orifice, was a patch, the size of a sixpence, much softer than the rest of the mucous surface, and which tore upon the lightest touch of the fingers. 'I concluded,' says the author, 'that it was here the foreign body passed from the bladder into the vagina, and thence into the os tincæ. It seemed to me, indeed, impossible that it should have passed directly from the bladder into the womb, for no cicatrix, nor way of communication was discovered betwixt these two organs.'

"The broken pipe-stem was three inches in length, and much incrusted with calcareous matter."—*East London Lying-in Institute.*

This case is very curious, from the rarity of the circumstances accompanying it. It is true, that cases are known of inorganic bodies found within the womb, such as calculi, that have given rise to strange symptoms, (*Sabatier, Mem. de l'Acad. de Chirurg.*); cases also are known of urinary calculi that had passed into the vagina, but none of them can be compared with this one.

We cannot refrain, however, from remarking, that it is doubtful whether the passage of the pipe-stem took place by the route indicated by the English surgeon. We should rather be inclined to think, that the woman, making a mistake in using the catheter, passed it into the womb, and not into the bladder. The softened patch in the bladder, was perhaps the cause of the suppression of urine in her case.

is partially dilated, they can be touched, either with the finger, or with a sound or catheter.

The signs above pointed out are far from being always present, for the calculus may give rise to no symptom at all, and be discovered only after death. They are in general found only in persons at a somewhat advanced age, yet they have also been met with in young persons; in girls of twenty-nine years, of fifteen years, and even in a little girl eight years old, who fell a victim to suppression of urine. At the post-mortem examination, the bladder was quite sound, but a calculus of a white colour, and of the size of a large pigeon's egg, was found within the uterus. Rammazini* informs us that he also saw a spongy calculus extracted from the uterus of a little girl.

The *treatment* of uterine calculus varies according to circumstances, as to their form, size and situation in the womb. As long as the calculus does not interfere with the general health, and its existence is only betrayed by the discharge of some fragments, we should confine ourselves to the administration of such measures as are calculated to favour its entire expulsion, such as baths and emollient and narcotic injections.

In case of any serious symptoms arising, and with the cervix uteri large and readily dilatable, the immediate extraction of the calculus should be attempted with a pair of long, narrow pincers; or use might be made of what is called Hunter's forceps, or what is still better, the three-pronged forceps of the lithontriptic set. Should the os uteri not admit of the introduction of instruments, it should be enlarged by several incisions, according to the plan practised by Aetius more than 1300 years ago, after which the operation might be very easily concluded. If a calculus should be found to adhere, it should, if possible, be detached, by carefully moving it in different directions. In fine, where the stone is moulded by the shape of the cavity of the womb, and especially where its surface is rough and uneven, all attempts at extraction would prove not only nugatory, but would lead to fatal lacerations. Under such circumstances, regarded by all practitioners as beyond the reach of art, we imagine that recourse might be advantageously had to lithotripsy in order to reduce the calculus to powder, which might be done with less danger than if the stone were in the urinary bladder. We shall conclude by observing that no attempt to perform such operations as have been described should ever be made except under an absolute and certain knowledge of the existence of a calculus in the uterine cavity. All doubt on the subject may be dissipated by the use of a sound, which, by the shock and friction of its point, enables us to appreciate the consistence and hardness of the concretion, and even to break off fragments of it. Such bits of calculus, when brought away, would furnish clear evidence of the case, could we make sure that they did not come from the urethra or had not been formed in the vagina by some vesical fistula.

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* Ephemerides Natur. Curios., sec. i. 75. Num. 4, 5. Obs. 65.

Small concretions formed in the substance of the womb require no treatment; and they give rise, moreover, to no symptoms, and cannot be ascertained during the life of the patient by any appreciable sign. Those that are formed in the vagina, look like red gravel, and are composed of uric acid; or, they may be of larger size and of a chalky appearance, and a whitish colour, in which case they will be found to consist of a phosphate of lime and an ammoniaco-magnesian base. Vaginal calculi of this kind may sometimes be found of great magnitude. Kœler* met with five such, weighing about seven ounces, in the vagina of a woman labouring under prolapsus uteri. These concretions are chiefly met with in cases of displacement of the organ, and have been well described by Graaf, Lankrisch, and Bouvet. Foreign bodies, allowed to remain and become altered in the womb, are frequent causes of calculus. Their nucleus is commonly portions of sponge, or of cork or wax pessaries. Hoffman, Walter and M. Breschet, and other authors, cite examples of this kind.

These vaginal concretions, which in themselves considered are not very dangerous, but often exceedingly inconvenient, may be produced either by a morbid secretion of the procident womb or by infiltration of urine. They form like the calculous incrustations on pessaries left for a long time in the vagina. They are readily discovered by the finger, or by means of a sound passed into the vagina. As soon as they are discovered, they should be removed with proper pincers or forceps, after which the patient should be directed to use vaginal injections, and frequent baths, to prevent their formation again. Lastly, calculous concretions, which certain authors, among whom may be named Stœller and Sœmmering, say they have found in the surface of the labia and nymphæ, may be easily recognized by the simple inspection of the parts, and it would always be easy to remove them at once.

## OF POLYPUS OF THE WOMB AND VAGINA.

It is difficult accurately to define a polypus of the womb, for several dissimilar tumours, having nothing in common except their situation, have been comprised under the appellation. In general, by the term polypus of the womb, is now designated any tumour, any excrescence or preternatural tumour, rising by a base or pedicle, whether small or large, from the mucous membrane of the neck or body of the organ.

Polypus uteri, though not well described before the eighteenth century, was nevertheless known to the highest antiquity; and while Hippocrates, Celsus and Galen make no mention of it, Philotenus,† who lived antecedent to the two latter authors, indicates with sufficient clearness the progress of the uterine polypus. If we may judge from the few words he has uttered on the subject of the treat-

* Dict. de Méd., t. iv. art. calcul.

† Harmonia Gynæciorum, p. 138, 1566, and Peyrilhe, p. 115, 1780.

ment, we may infer that the method he employed was to tear them away, and to excise them with instruments. Moschion, in his Treatise, (*de mul. affectibus*,) which was published by Spachius, in 1566, was the first to give the name *pulps* or polypus to the pediculated fibrous tumours of the uterus; but his words show that his notions on their nature were not any clearer than those entertained by his predecessors. We must come down to the time of Guillemeau, who was the pupil of Ambrose Paré, to find a pretty clear description of the polypus; but to Levret* belongs the honour of having, by the study of different cases, dissipated the obscurity that covered the anatomy, the diagnosis, and treatment of polypous tumours. This subject, which had, in the last century, been more or less illustrated by Lamzweerdet†, Schacher,‡ Kaltschmitt,§ and Herbiniaux,‖ requires scarcely any further development, since the labours of Dessault,¶ of Bichat,** of Denman,†† of Boyle,‡‡ of Mess. Roux,§§ Grainger,‖‖ Mayer,¶¶ Breschet,*** Hervez de Chegoin,††† Simson,‡‡‡ Dupuytren,§§§ Malgaigne,‖‖‖ Gerdy,¶¶¶ Dugès,**** Blandin,†††† and others too tedious to mention.

We shall say but little as to the pathological anatomy of the polypous and fibrous bodies of the uterus, because we have nothing new to offer upon the subject, and also, because, to set forth all the various opinions of authors concerning them, would extend the notice too far.

Levret distinguished two species of polypus, and since his day, most of the writers on the subject have increased the division, and embraced within it the white vesicular polypus, the red vesicular polypus, the fibrous polypus, and also the sarcomatous polypus, which is of a deep red colour, an irregular shape and a somewhat botryoidal tuberculated surface. At the commencement of their growth, they are indolent, but they soon become the seats of lancinating pain, rapidly assume a cancerous character, and excrete from the surface a bloody discharge, which is often found to be con-

* Obs. sur la cure radicale de plusieurs polypes de la matrice, 1740.
† Hist. naturalis mal. uteri., Lugd., in 12mo., 1686.
‡ Programma de polypis, &c., Leips., 1721.
§ De mola scirrhosa in utero extirp., Jena, 1734.
‖ Traité des acc. labor. et sur les polypes de la matrice, t. ii., 1782.
¶ Œuvres chirurg., t. ii.
** Mem. de la soc. méd. d'émulation, t. ii.
†† Plates of a polypus, &c., of the uterus, 1801.
‡‡ Dict. des Sci. Méd.
§§ Mémoires sur les polypes. Mélanges de chir.
‖‖ Med. and Surgical remarks, &c., method of removing polypi from the uterus, 1815.
¶¶ De polypis uteri. Berolini, 1821.
*** Dict. de Méd., in 21 vols., vol. i., 17.
††† Journal General de Médicine, Oct. 1817. Rémarques sur la disp. anat. des polypes de la matrice.
‡‡‡ De polypis uteri. Berolini, 1828.
§§§ Clinique chir. Leçons orales, t. iii.
‖‖‖ Des polypes uterins. Thèse d'aggrégation en chir., in 4o. 1822, and in 8vo. 1833.
¶¶¶ Des polypes et de leur traitement, 1833.
**** Mal. de l'uterus, t. i., 1833.
†††† Dict. de Méd., et chir. pratiques, t. xiii., 1835.

stant. M. Malgaigne (*loc. citat.*) makes five divisions: 1, the vesicular; 2, the cellulo-vascular; 3, the polypus from hypertrophy; 4, the moliform, and 5, the fibrous polypus. Inasmuch as we look upon some of these varieties of polypus as being merely the fungous vegetations of the hæmatode cancer of the womb, or the carcinomatous degeneration of a fibrous polypus, we shall confine our observations to the two kinds most commonly met with, *videl.:* the cellulo-vascular or soft polypus, and the fibrous or hard polypus, which are subdivided into pediculated, and sessile or non-pediculated.

The *cellulo-vascular polypus* is commonly found upon the os tincæ, and within the canal of the cervix uteri. In general, it is not large, is readily compressible, indolent, light, of soft consistence; its colour is white, or more or less deep rose or red-tinted, according to the number of its blood-vessels. These polypi may be simple or multiple, immovable, with a broad base, though for the most part they are attached by means of a pedicle, of various lengths in different specimens. These polypi, which are rare and not very dangerous, incommode the patient only by causing a very abundant sero-mucous discharge.

Where the cellulo-vascular polypus attached to the os tincæ is of small size, it is often a difficult matter to detect it by the touch, for it flees before the contact of the finger, which flattens or glues it to the side of the womb. The best way here is to move the finger in a transverse direction across both the inner and outer surface of the uterus, by doing which we shall discover one or more tumours, soft, almost undulating, and somewhat salient, that may be moved in any direction.

In the *Bulletin des Sciences Médicales* for October, 1827, Professor Dupuytren points out the following characters:

"The cellular and vascular polypi presenting symptoms analogous to those of cancer of the cervix uteri, escape, by their minuteness, the most careful search. They force both physician and patient to despair. The discharges, whether white or red, are commonly attended with a sense of fatigue in the loins, dragging feelings in the groins and pressure at the fundament; there is both physical and moral exhaustion, which is promptly induced by the loss of blood, and the continued pain. This bleeding, and still more the white discharge, are easily brought on by the slightest touch, by coitûs, by the approach of the menses, and they are easily detected, either by the touch or by the use of the speculum. Let the finger be conducted to the os tincæ, and within its circuit we shall find one, two or more small, elongated pediculated bodies, implanted in the lower part of the canal of the cervix; they vary in size from that of a pea to that of a kidney-bean; they bleed at the lightest touch; and if, instead of trusting to the touch alone, we examine them with the speculum, we find the neck and the mouth of the womb red, dilated, and filled with little reddish bodies elongated, pediculated and implanted upon the neck. There is no disease with which this malady has not been confounded."

The treatment of polypous tumours of this sort consists in eradi-

cating them by a mixed process of avulsion and torsion. For this end the parts should be exposed by means of our jointed speculum, which enables us to dilate the vagina in every dimension, and that chiefly at the part on which we have to operate; and then after cleansing the polypous tumour with a plumaseau of charpie, held in a long forceps, or on the handle of our port-caustic, it should be seized with a proper pair of forceps so as to twist it off and remove it, taking care to carry the open gripe of the instrument to the very root of the pedicle, so as to be sure of effecting a complete eradication of it. We may be sure of having effected this object, if we find with the finger a pit or depression at the spot whence the pedicle sprung. The hypertrophy and the œdema of the neck of the womb which frequently accompany the cellulo-vascular polypus, may be subsequently treated by the measures pointed out in our remarks upon those affections, while the simple ulcers caused by the avulsion of the pedicles, should be managed by the use of antiphlogistics, rest, and cauterization.

The *pediculated fibrous polypus* is ordinarily of a rounded form, as long as it continues to inhabit the cavity of the womb, but as soon as it escapes from that organ, it becomes pear-shaped, with the large end downwards. The tumour, which is at first small, increases in some instances rapidly, and in others remains stationary, after acquiring certain dimensions. According to Boyer, some of them then diminish in size and almost wholly disappear, by the powers of nature merely. These tumours are connected with the womb, by a pedicle, which differs in different specimens as to its point of attachment, its size and its organization.

Indeed, the pedicle which adheres to the inner surface or cavity of the womb, or the canal of the cerevix, or to one of the lips of the os tincæ, may be thin, slender, long, and weak, or hard, thick, short and strong.

The interior texture of the fibrous polypus uteri, is very similar to that of the organ itself, that is to say, it is dense, firm, strong, and exhibits the same inextricable decussation of fibres. Vessels are found in it which are not always very apparent, though their existence is indubitable, from the red colour, and more especially from the growth of the tumour. When cut into, it creaks under the knife, and the sensation it gives rise to is like that produced by cutting the substance of the uterus. Along with the reddish tint we have mentioned, is conjoined a slightly yellowish colour, which is the paler, as the density is greater. Though the existence of nerves in these bodies cannot be demonstrated, their presence is proved by the pain resulting from the constriction of their pedicles.

[I cannot agree with Mr. C. in this view. Such a tumour is insensible to pressure, though the stricture of it may disturb or distract the sensitive parts upon which it sits. A surer proof of its possessing nerve power is the fact of its having power to grow. The tumour is organized—not crystallized, as by simple aggregation of its molecules, but by regular nutrition—

which cannot be hypothecated of any non-nervous structure. The simple fact that it has blood-vessels shows that nerve filaments must accompany those vessels—both the vessels and the tumour would perish without nerves. As to the pale yellowish red colour of this fibrous polypus, I beg leave to say that I saw one discharged by violent labour pains from the uterus of a negro woman, at Augusta, in the State of Georgia, in 1812. It was as large as the head of a full-grown fœtus, and had been attached to the fundus uteri by a pedicle as large as the little finger. The uterine contractions, after dilating the os uteri and expelling the mass into the vagina, with prodigious pain, forced the tumour through the vulva, when the pedicle parted, and the woman was freed from a long trouble. The surface of that tumour was of a blackish soot-colour, and very rough—it was hard and elastic—and upon laying it open with a scalpel, was found to consist of spherical and oval cells or loculi, some an inch in diameter with an infinity of smaller ones; the cells were filled with a viscous fluid resembling bloody synovia. I removed one in 1843, which was of a whitish colour, faintly tinged with brown. It had occasioned enormous floodings and the most distressing *anemia traumatica*, for six or eight years—in that case there were no cells in the substance of the tumour.—M.]

Fibrous polypi, developed in the sub-mucous tissue of the uterus, are covered with the mucous membrane of that organ which extends with the growth of the tumour, and composes, in conjunction with the blood-vessels, and some fibro-cellular tela, which it invests, the pedicle or stalk by which the morbid production is attached. This pedicle grows smaller, in some instances, to such a degree as to break off, and permit in that way a spontaneous cure, as in instances cited by Mauriceau, Ruysch, Hoffman, Levret, Dupuytren, and Hervez de Chégoin. It occasionally happens, on the other hand, that the pedicle is hard, solid, and does not stretch at all, or it even acquires greater and greater thickness as the tumour enlarges. Polypi have been met with, whose pedicle had grown sufficiently to measure above four inches in circumference.

Though the shape of the pediculated fibrous tumour is commonly ovoidal or pyriform, they are sometimes botryoidal, flattened, angular, cylindroidal, strangulated, irregular, and divided into lobes. They vary in size from that of a lentil (Bayle) to that of a man's head. M. Marjolin mentioned in his lectures, that he had seen a polypus uteri as large as the head of an adult. The tumour, which had inverted the womb upon descending into the vagina, compressed the bladder and the rectum violently. After fruitless endeavours to extract it with the forceps, it was proposed to make a section of the symphysis, which merely rendered the tumour more salient; and it was not extracted until after the woman's death, when it was removed through the hypogastrium. The old *Journal de Médecine*, tom. 63, speaks of a polypus weighing ten pounds and a half, and eighteen inches in circumference at the base, and thirteen inches long. This polypus, whose proper tissue consisted of fleshy fibres running in various directions, was inserted upon the os tincæ. In fine, M.

Gaultier de Claubry, sen., has published an account of a polypus weighing thirty-nine pounds, and thirty-five inches in its vertical circumference by twenty-nine inches in horizontal circumference. These large polypous masses distend the uterus almost as much as a fœtus at term, and produce modifications, analogous to those of pregnancy, not in the womb only, but in the breasts, and, indeed, throughout the entire constitution of the female.

[M. de Claubry's polypus, of thirty-nine pounds weight, could not possibly have been contained within the womb, or the womb and vagina together. The comparison with the fœtus at term is useless; the heaviest fœtus I have seen weighed thirteen and a half pounds. Twins, born under my care, weighed eight and a half pounds respectively, and triplets, carefully weighed, furnished a sum of twenty-one pounds weight. But these are far short of thirty-nine pounds. Here we must suppose M. de C.'s case to have been extra-uterine in its location.—M.]

Certain kinds of polypi, instead of forming a compact fibrous mass, exhibit cavities in the interior, giving rise to so great a resemblance to the womb itself, that many times a surgeon, who had extirpated a polypus, has supposed himself to have effected the complete ablation of the womb. Boudon, Maune, and Collin, not only fell into this mistake, but what is still more extraordinary, affirmed that their patients again became pregnant after the operations. Such a mistake may be readily conceived of, when it is a fact, that in the year 1823, and in the hospital St. Louis, two practitioners, so distinguished as Mess. Richerand and J. Cloquet, having extirpated a hollow polypus, supposed they had removed the entire uterus, which, however, was found in its proper place upon the death of the woman, which took place subsequently. There is yet another kind of hollow polypus, that must not be confounded with those we have mentioned; we speak of polypi, whose interior cavity contains cerebriform matter, fungous substance, effused blood, or any of the products of the cancerous degeneration.

The polypi that are most liable to undergo this pathological transformation, are those in which there is a predominance of cellular tissue. Those, on the other hand, in which the fibrous exceeds the cellular element, only degenerate into an osseous state, or, at least, if they do become scirrhous or cancerous, the transformation proceeds from the circumference towards the centre, because, in that case, it does not depend upon the reaction of the different elements upon each other, but upon an inflammation of the womb, and especially of the internal membrane of it. Inasmuch as it appears, from a remark made by Dupuytren, (*Méd. Opérat. de Sabatier*, t. iv., 337,) that the external layers of polypi are the parts that first pass into the cancerous condition, and that the body, or at least the pedicle of the tumour, is almost always found in a sound state; we may attack them, with some hopes of success, even where they seem to be already somewhat advanced into a condition of cancerous degeneration.

Professor Cruveilhier speaks of another kind of hollow polypus, of which he has met with several specimens. They result from a true

hypertrophy of the proper tissue of the uterus, and contain certain cavities similar to the uterine sinuses, and which are commonly found full of black grumous blood.

Inasmuch as the pathologists are not agreed as to the various sorts of pediculated polypi, we shall dispense with any remarks upon the subject, particularly as no good could arise from them in a practical point of view.

The *non-pediculated fibrous polypus*, or *fibrous tumour of the uterus*, is a tumour of the same internal texture as the pediculated kind, but differs in respect that it grows without any pedicle, and springs either from beneath the peritoneal coat or in the substance of the uterine texture. The latter, though enclosed within the substance of the womb, are not connected with it by any continuity of tissue, but, being produced *de novo*, they are circumscribed and enveloped in a layer of cellular tela, compact enough to make them appear as if enclosed and shut up in a cyst. Those that project upon the peritoneal surface, are sustained there by a large base or by a stout pedicle, consisting of peritoneum and some laminæ of cellular texture.

These polypous productions, generally designated by the term fibrous tumour, may be either simple or multiple. M. Roux has seen as many as ten or twelve protruding from the surface; we, on one occasion, found eleven in the uterine parietes of an aged subject; and, lastly, M. Cruveilhier met with three, with broad bases in the uterine cavity of a subject thirty years old, who died with phthisis.

The shape of the fibrous tumour is almost always round; the surface, like that of the pediculated polypus, is, in some instances, smooth; in some, uneven; in others, full of anfractuosities, and, as it were, divided into several lobes. The size varies from that of a lentil or small nut to that of an adult head. In fine, the colour, consistence and origin being the same as in the pediculated fibrous polypus, we shall here close our remarks upon those points, particularly as we shall have to recur to it when we come to consider the diagnostics and treatment of fibrous tumours in general.

The causes of polypi are for the most part difficult to ascertain. Among the predisposing causes have been mentioned a lymphatic temperament, the herpetic, syphilitic or scrofulous taint; a chronic leucorrhœa, celibacy, barrenness, abortion, and sedentary employments, such as those of the cook, the ironer, the seamstress, &c. The period of life, when advanced, appears also to have some influence upon the development of polypous tumours; indeed, the age from thirty to forty, and that from forty to fifty years, are the terms in which uterine polypi are most frequently met with. Out of fifty-one cases collected by authors, M. Malgaigne found between 26 and 30 years, 4 cases; from 30 to 40 years of age, 20; from 40 to 50, 16 cases; from 50 to 60, 4; from 60 to 70, 3; and from 70 to 79, 4 cases; in all, 51 cases. From this statistical report, it appears that polypous excrescences are rare in very aged persons, in young women, and especially in girls under twenty-five years of age; yet Dessault extirpated a polypus in a girl of fifteen years old, and Dr. Simpson (*loc. cit.*, p. 22) informs us that Siebold has observed three polypi in the case of a girl with the hymen perfect.

The fibrous tumours, properly so called, that are developed under the same influences as those that produce the pediculated sort, are far more frequent than the latter. Bayle estimates at one-fifth, the number of women beyond thirty-five years of age, in whom he met with samples of one or more fibrous tumours. Portal found a still larger proportion, since, in twenty wombs that he examined in 1770, there were thirteen exhibiting the fibrous excrescence: lastly, according to Dupuytren, there are almost no specimens of the womb, in aged women, that are unaffected with tumours of the kind in question.

It is equally difficult to say what are the *determining causes* of polypus uteri. Nevertheless, it may, as a general rule, be correct to say that the primary and essential cause consists in a certain mode of irritation, whose persistence, at a given point of the womb most affected, determines at that point a new mode of *nutrition* and *vitality*, the precise nature of which it will be forever impossible to explain, but which may, to a certain extent, be compared with the ligneous excrescence arising from punctures made by the *Cynips Gallæ*, or the oak twigs that produce the nut-gall.

Many circumstances may dispose to the local irritation that gives rise to and favours the development of the polypus; such as punctures, fissures, excoriations, *abusus coitus*, all sorts of vaginal discharges, laborious labours, inconsiderate manipulations for the expediting of delivery, astringent injections, and, indeed, all sorts of agents capable of establishing an habitual or frequently renewed irritation of the genital organs. Let us add, that different authors inform us of the very frequent occurrence of polypus uteri among certain oriental nations, whose women make use of irritating pessaries for the purpose of exciting their lubricity.

The *primary symptoms*, or rational signs that should lead to a suspicion that a fibrous polypus exists in the uterus, are about the same at first, whether the tumour is situated near the peritoneal surface, or whether it projects into the cavity of the organ. The ordinary indices of the disorder consist of a set of sympathetic phenomena, such as vomiting, disgust, paleness and leuco-phlegmasia; the menstruation becomes more frequent, profuse and protracted; if the tumour occupies the body of the womb, the hæmorrhages which, under such circumstances, are still more irregular as to their recurrence, become, in certain instances, so profuse as soon to exhaust the woman, who at length dies of debility. These serious symptoms are ordinarily attended with a leucorrhœal discharge, which is at times fetid and bloody, and which mostly precedes the formation of the polypus; but which, nevertheless, does, in some of the instances, fail to manifest itself until after the tumour has long been formed. It is proper also to observe that where the tumour is situated upon the cervix, the vagino-uterine discharge exists simply, that is to say, without any hæmorrhagic discharges; in fine, we have to add that the patient, at the same time, suffers from dragging sensations in the groins and back; a sense of weight in the hypogastrium, and distension in the interior of the pelvis, and at a more advanced stage, a sort of uneasiness

and compression about the bladder and rectum, that interferes with the evacuations of stool and urine; but these last symptoms do not appear until the magnitude of the tumour has become considerable.

The *sensible signs* of polypus uteri are not to be discovered in every stage of the malady; and further, they differ according to the situation and size of the tumour. Although the menstrual derangement, the nausea, the swelling and pain of the mammæ, the change in the physiognomical expression, the bloated appearance of the eyelids, and most of the symptoms we have pointed out, may, in the commencement of the disorder, sufficiently show to the medical attendant that there is disease about the uterus, it is often quite difficult to say precisely, what is the nature of the affection, while the polypus continues to be shut up within the cavity of the organ.

The *rational and sensible signs*, as well as the *progress* of polypus uteri, differ according as the tumour happens to be situated upon the os tincæ, within the cavity of the neck, or in the cavity of the womb proper.

A polypus implanted upon one of the lips of the cervix, generally presents no symptom beyond a leucorrhœa, more or less profuse; and on this account it is often unsuspected until it becomes large enough to descend near to the vulva, and impede the expulsion of the urine. By the examination per vaginam, we are enabled to ascertain the presence of a tumour of different size and consistence in different specimens, of ovoidal shape, and adhering by its contracted or pediculated portion to the cervix. The diagnosis is completed by bringing the tumour into view by means of the speculum.

These polypi become, in some instances, so large that they not only dilate the vulva, but even descend betwixt the thighs, dragging the womb along with them, but without inverting it. The polypi that are inserted within the canal of the cervix, are more difficult of ascertainment. By introducing a finger into the vagina, we feel a tumour circumscribed by a thick circle, which is the os uteri distended by the polypus. Upon discovering that the tumour is implanted higher up than the os uteri, we should endeavour to learn whether it is fixed upon the canal of the cervix, or upon the paries of the uterine cavity, properly so called. This may be done, either by carrying forward the point of the finger to the root of the tumour, if possible, or by using a female catheter, with which we may explore the whole surface of the cervix; but which will be arrested by the neck of the tumour, should it spring from the wall of the cervix. As the polypi that are so situated are liable to be more or less violently compressed, they are more frequently than the other kinds attended with hæmorrhage, and as they increase in size, they descend along the vagina, and soon present themselves at the vulva.

Polypous tumours adhering to the fundus uteri should be differently regarded, accordingly as they happen to be still within the cavity of the womb, in the canal of the cervix or in the vagina itself.

When they are still within the cavity there are no distinctly marked sensible signs of them; the woman complains merely of a sense of weight in the pelvis, and a little difficulty in the urinary and alvine

discharges. Should we discover by the sur-pubal palpation and the examination per vaginam that there is a tumour, we should remember, that such an enlargement might arise from a collection of blood, a calculus, or a bunch of hydatids; from a fibrous tumour growing in the substance of the uterine paries, or even from a hypertrophy of the womb itself; in such case the most prudent course is to wait, and in the mean time prescribe for symptoms.

In this early stage, the health of the patient is but little disturbed, yet they mostly complain of pain in the groins, back and thighs; are subject to leucorrhœal discharges; and their menses, which are irregular, and more prolonged, also return with shorter intervals.

In the second stage of the development and progress of the polypus, the tumour, when attached to the fundus uteri, after slowly dilating the cervix, engages in the canal like a wedge, as Levret remarks, and soon makes its appearance at the os tincæ. The orifice, which is now gaping, admits of the introduction of the finger, which is stopped by a convex, resisting, smooth, nearly insensible tumour, the whole substance of which may be moved slightly upwards by gradual pressure on the part below. This tumour is separated from the circle of the os uteri, which it fills up, by a circular sulcus and by the projecting lips of the os uteri, all round the outside of which the surgeon can feel nothing except the cul-de-sac formed by the inversion of the vagina. When the polypus has attained a certain size within the uterine cavity, there is often considerable difficulty in its escape through the orifice; and in some instances, it may even be impossible for it to do so, owing to the exceeding rigidity of the os uteri. The womb, in such a case, must expand, *pari passû*, with the expanding volume of the tumour; the hypogastrium also augments in size, the breasts enlarge from sympathy, and the pains experienced by the patient, and which become more and more severe, are accompanied by almost continual losses of blood, so that the patient cannot move, while her general feebleness is constantly increasing. The pulse is small, weak and frequent; she is attacked with repeated faintings, her face and eyes become bloated; dropsy, which is at first partial, and then general, comes on, and death is the invariable result of this scene of sufferings, if the physician does not hasten to apply the proper remedies.

Where the polypus has fallen into the vagina, whether by slow and gentle progress, or in a sudden manner, after some fall or shock of any kind, or bearing-down effort, like the tenesmic effort of labour, the tumour is generally regarded as in its third stage. The pains are now suddenly lessened, because the womb is not now so violently compressed, nor does it continue to contract as before. But a copious flooding generally comes on, produced, as Levret and Sabatier suppose, by the compression of the superficial veins of the tumour by the constricting cervix uteri. This compression, which prevents the return of blood from the tumour, fills the veins to bursting.

By Touching, when the polypus has descended quite into the vagina, we discover a firm tumour, of a pear shape, the larger end downwards, while the neck enters into the womb. The symptoms

and sufferings, which had become less severe, soon acquire increased energy; for the polypus, by increasing in size, comes to press upon the rectum and bladder, more and more severely every day, until the alvine and urinary discharges, which had both been only incommoded before, now come to be absolutely impossible. The fundus of the womb is almost always drawn down, and we have both a case of incomplete inversion and prolapsus uteri combined. The dragging pains in the inguinal and lumbar regions are felt with greater force; the patient cannot stand upon her feet; and, now the tumour, precipitated by its own weight, or by the contractions of the parts, shows itself at the labia pudendi, and, being continually soiled by the urine and the utero-vaginal secretions, rapidly passes into a state of disease still more to be deprecated.

When, in consequence of the large size of the polypus, or the rigidity of the uterine ligaments, the tumour has been prevented from descending low enough to come out of the vagina,* the mucous membrane of that canal becomes irritated with the contact, and even inflames, its surface becomes swollen, uneven, tubercular, and bathed in putrid sanies of an extremely fetid odour. To the paleness arising from repeated floodings, and the general anæmia of the whole system, are now added the straw-yellow tint of the skin, which characterizes the cancerous degeneration which almost invariably attacks a polypus thus retained and left to the powers of unassisted nature.

It is a rare thing for a polypus uteri to escape spontaneously through the vulva, either because they remain stationary, after growing to a certain size in the vagina, or because they are extirpated by the surgeon before they become large enough to pass out; or, finally, because the patients commonly die with the floodings or sero-purulent discharges; but we may see that, on different occasions, a large polypous tumour has been seen depending betwixt the thighs, and pretty closely resembling a complete prolapsus, or more especially an inversion of the womb.

The existence of a polypous tumour in the womb is not necessarily an obstacle to conception, gestation, or even accouchement at term. Levret† relates three cases, that remove all doubt upon this point. One of them fell under his own observation, and the other two are cited from Boudon and Thoumain. In the two first cases, the pregnancy was quite natural, and what is most remarkable is, that during its entire continuance, the polypus disappeared, and did not reappear until after her delivery. In Thoumain's case, the tumour caused the woman to miscarry, which is the most general result. Dr. Huguier *aggregé et prosecteur* of the Faculty, and one of the most distinguished young physicians of Paris, informed us that a girl, eighteen years of age, who, notwithstanding she had a polypus attached to the os tincæ, which projected into the vagina, was married and became pregnant. As the tumour incommoded her considerably, and

* Baudelocque saw a case of polypus uteri retained in the vagina, and of so large a size as to fill the entire cavity of the pelvis, and push up the womb as high as the umbilicus. (Recueil. Period. de la Soc. Med., t. iv. p. 137.)

† Mem. de l'Acad. de Chir., t. iii.

excited her fears as to her confinement, she decided upon allowing it to be removed, which she had always refused to do before. The section of the pedicle, which was done with a bistoury, was followed by a very slight hæmorrhage, but the woman miscarried the day after the operation. The physician who attended this woman, who lives near Paris, told M. Huguier that she is now (January, 1838,) perfectly well.

[The American Journal of the Medical Sciences for October, 1843, at p. 519, contains the history of a case as follows: "The spontaneous expulsion of a large polypus, two days after the delivery of a fine healthy male child; by John Davis, M. D., of Smithville, Abbeville District, South Carolina.

"May 22d, 1843, I was summoned to Mrs. C———, æt. thirty-two. When I arrived, I found her to have been in labour twelve hours, with her fifth child. The presentation was natural, and the soft parts well dilated; the pains were, and I was informed had been, pretty strong for three hours previous to my arrival, yet they were irregular, intermitting and of little effect. She was greatly exhausted by the continuance of her sufferings and the violence of her exertions." The relator proceeds to say that the patient after flooding and great debility, "was delivered of a large healthy male child. The after-birth seemed to be slightly adherent, but was soon delivered, with little difficulty and without much hæmorrhage. In short, all things seemed to do well, excepting the uncommonly severe after-pains, which led me to place my hand over the abdomen, when I was a little surprised to find it but slightly diminished in size, especially immediately over the region of the womb. This led to a still further examination, *per vaginam*, and, to my utter astonishment, I discovered a large resisisting tumour firmly impacted in the uterus. Satisfying myself as to its character, I did not examine as to its location, as the soft parts were very tender to the touch, and as the patient was very much enfeebled; nor was it necessary, as that was not the proper time to search for a pedicle or neck, or, if its location were ascertained, to apply the ligature." The Doctor, having given such directions as seemed proper, left his patient doing well, but was recalled hastily, "late in the afternoon of the day following;" but before he arrived, "she was spontaneously delivered of a polypus, weighing eleven ounces, without the slightest hæmorrhage.

"The polypus is now in my possession; its pedicle or stem is about an inch long, and about two in circumference; it is similar to a fungous excrescence, and is covered by a thick membrane; it is full of large veins and arteries, some of the former being varicose."

The relator says, "this is the 19th of June, and the lady has recovered entirely."

I presume there can be no doubt as to the authenticity of this case, and I look upon it as a most interesting one, seeing that it exhibits an amazing example of the power of the reproductive organ to tolerate what might, *à priori*, be

regarded as an intolerable burthen, the weight, to wit, of the tumour, together with the ovum and its contents. It is highly probable that the development of the tumour must have proceeded at a great rate during the latter months of the gestation.—M.]

The *symptoms* of the non-pediculated fibrous tumour, or *fibrous body* of the womb, are not so marked as those of the polypus, because they produce less disorder in the menstrual and other functions of the organ. The sub-peritoneal fibrous tumour, especially a small one, yields no sign of its existence; it only becomes evident when it has attained to a certain magnitude. By resorting to the sur-pubal palpation, we may perceive an indolent tumour, of a certain size, of a roundish shape, and which projects either in the middle, or to one side of the belly. The patient has an uneasy sensation in the abdomen, which is aggravated by any sudden movement. But we ought to state that these signs are insufficient to distinguish, *à priori*, the sub-peritoneal fibrous tumour from the other kinds of tumours that may happen to exist in the pelvis, such as a scirrhus, or an encysted dropsy of the ovary. However, a mistake in the diagnosis can by no means prove prejudicial to the patient; for in these cases, all that the medical attendant has to do, is to remain a mere spectator of the events of the case, confining himself to the administration of a palliative treatment.

Fibrous tumours in the parietes of the corpus uteri, especially small ones, may also exist without exhibiting any signs of their presence; yet in most cases, we are enabled to determine the question as to their existence, with considerable precision. In fact, by exploring the lower part of the abdomen, a tumour may be felt, which grows daily in size so as to rise in some cases above the umbilicus. By fixing this tumour firmly with the left hand pressed upon the hypogastrium, and carrying the index finger into the vagina, so as to enable us to push the tumour suddenly upwards, the impulse is communicated to the other hand; if, on the contrary, the tumour being pushed by the left hand from left to right, we perceive a corresponding movement, but from right to left, it indicates that the tumour is continuous with and part of the womb itself.

A non-pediculated fibrous body situated upon the vaginal surface of the neck is much more easily recognized, for it may be detected by means of the speculum, as well as by the Touch. However, it should be observed that considerable obscurity may attend the diagnosis whenever the tumour, instead of occupying the surface, is deep-seated. In such a case it happens that the woman merely complains of an uneasy sensation, as if produced by a foreign body in the vagina; but this foreign body, which may become of considerable size, really consists of the cervix itself enlarged at some particular point, or in several places at once: let it be also remarked, that women who are still regular, and who are affected with fibrous tumour of the substance of the womb, are generally subject to sanguineous and leucorrhœal discharges, more or less profuse in different instances, and that they are commonly remarkable for the paleness of their complexion,

and a peculiar bloat, accompanied with languor; some of them recover their healthy and fresh colour, and look as they did before the attack, and indeed feel nothing more than the uneasy sensations due to the presence of the tumour.

The differential diagnosis of various conditions of fibrous polypus of the womb have been already pointed out. We shall now proceed to speak of the affections that may be confounded with them, and which have heretofore led to the most serious mistakes.

A fibrous tumour, contained within the womb, may lead to the supposition of pregnancy, the more readily, as it frequently happens that the enlargement of the abdomen, and the tumefaction of the breasts, are conjoined with numerous sympathetic phenomena that attend the state of gestation. This mistake may be avoided by recollecting that the enlargement of the abdomen proceeds much more rapidly in pregnancy; that in the case of polypus uteri, there is no *ballottement;* that the use of the stethoscope discloses neither the pulsations of the fœtal heart nor those of the placenta; and lastly, that the health of the patient undergoes changes that belong not to the gravid female in true pregnancy.

An incomplete prolapsion of the womb may be readily distinguished, inasmuch as the tumour formed by the womb has its apex or smallest end downwards, while the contrary obtains in the polypus; besides, at the lower end of the tumour, we find the os uteri, which admits of the introduction into it of the finger, or a bougie, or a stilet.

A polypus that has descended betwixt the labia pudendi has likewise been confounded with the complete descent of the womb. To avoid such a mistake, it is only necessary to be aware, that in this as in the preceding case, the tumour composed of the womb is smaller below than above; that it is painful, reducible, and has a transverse slit which is the orificium uteri.

Polypi have also been confounded with complete and incomplete inversion of the womb. In incomplete inversion the neck is found to be partially dilated, and we may feel within it a rounded spheroidal tumour. Though this be true of the polypus beginning to pass through the os tincæ, the tumour exhibits a different character in the two cases; for, when the womb is incompletely inverted, we may reduce, or rather we may make the tumour wholly disappear by pushing it upwards. If it be a polypus, then, instead of disappearing under pressure of the fingers, the tumour continues to retain the same volume and preserve the same convexity. It is proper also to distinguish betwixt the surface of the uterus, and that of a polypus. The superficies of a polypus, which is insensible, is always firm, and sometimes smooth, sometimes uneven and lumpy. On the other hand, the superficies of the inverted womb is velvety, soft, and very sensitive. Herbiniaux says, that the inversion of the womb is not attended with floodings nor purulent discharges, whereas they always are present in the case of polypus. We have moreover, to add, that in inversion of the womb, the finger will not pass more than a few lines upwards betwixt the tumour and the

neck; and that the hypogastric palpation shows the cavity of the pelvis to be almost empty, but where there is polypus, the womb may be readily felt. Finally, Malgaigne has proposed an ingenious mode of completing the diagnosis, which consists in introducing a male catheter into the bladder, so that the point, when directed backwards and downwards, until it rests on the fundus of the inverted organ, communicates the sense of touch to the index finger introduced into the vagina, and pressed upon the opposite surface of the organ.

A complete inversion of the womb may so much the more easily be mistaken for a polypus, inasmuch as the tumour being swollen inferiorly presents all the appearances, and the shape of the polypus. Yet, an attentive examination will always obviate the risk of making such a mistake. It is only requisite to know, that the pedicle of the polypus is long, slender and solid, while the contracted portion of the inverted womb is short and of a soft consistence. Besides, it ought not to be forgotten, that in inversion, the tumour, which is red, or of a reddish brown colour, is painful to the touch, easily reducible, and always leaves, after its descent, a void above the pubis: a polypus, which, as we have already stated, is hard, insensible, and of a whitish-yellow colour, cannot return into the vagina without exciting severe pain, nor without the greatest difficulty. Where the inversion has been caused by the presence of a polypus, there will be found two tumours, one above and the other below; above the lower tumour we may feel the pedicle of the polypus, which is attached to the fundus inverted; in fine, a vaginal hernia, a cancer uteri, may also simulate a polypus, but the softness, the shape, and the reducibility of the tumour in the former case, its irregularity, its being ulcerated, and the lancinating pains that attend it, in the latter, ought to suffice to dispel all doubts on the subject.

The prognosis of fibrous tumours of the womb, although in general serious, differs according to their situation, and the symptoms to which they give rise. Those that form beneath the peritoneum, or within the parietes of the womb, though beyond the power of the physician's art, are not necessarily mortal; for women have been seen to reach an advanced age, with very tolerable health, though affected in this way for years.

The polypi that remain within the uterine cavity, are generally more serious than those that escape from the orifice, and become, in that way, accessible to the hand of the surgeon. Notwithstanding it is true, that the removal of a polypus has in some instances caused the death of the patient, it has most generally been followed by her cure. We add that the gravity of the prognosis is augmented by the simultaneous presence of several distinct polypous tumours, and that those that grow from the canal of the cervix and from the os tincæ, are never so dangerous as the other species. The rare cases in which a cure has followed the spontaneous disruption of the neck of the tumour, or its passing into gangrene, offered the happiest termination of the disease. Lastly, the size of the pedicle, the volume of the polypus, the age of the tumour, its degeneration into cancer,

and especially, the general state or condition of the patient, modify the prognosis, so as to render it more or less unfavourable.

The *treatment* of fibrous polypus of the womb is either palliative or curative; tumours situated within the cavity of the organ, in its proper texture, or on the peritoneal surface, require nothing beyond palliative measures; for example, hæmorrhage must be checked by means of rest, by a horizontal posture and the use of astringent injections. The patient should be supported by an analeptic regimen, and by tonics, particularly the bark, bitters and antiscorbutics. Unmarried patients should decline the marriage tie; and those who are already married should, by all means, avoid becoming pregnant; for the life and that of the child of such a person would be exposed to the greatest danger.

Before we proceed to speak of the surgical treatment of the polypus, it is proper to mention, that where such a tumour, although still retained within the uterine cavity, has begun to show itself at the orifice and given rise to expulsive and dilating pains, its escape might be advantageously assisted by means of the secale cornutum; as has been successfully attempted in a case, for which see *The Lancet*, vol. i, Lond. 1828.

The surgical measures that have been proposed for the removal of polypus uteri, when accessible to the operation, consist in the cauterization, avulsion, crushing, torsion, ligature or excision of the tumour.

The application of the actual cautery, as advised by Hippocrates,* for the destruction of nasal polypus, as well as the *cathérétique* substances made use of with the same view by Celsus,† and, according to the report of Galen, by Philoxenus, Antipater, Ant. Musa,‡ and also by Scribonius Largus,§ Aetius,‖ Alexander Trallianus,¶ and other physicians of a remote antiquity, was never resorted to in the treatment of the cases of uterine polypus mentioned by those practitioners. As this operation appears to us equally dangerous and inefficacious, particularly for the purpose of destroying the fibrous polypus, we shall make no further mention of it.

We shall also say but little as to the practice of torsion, or that of avulsion of the polypus, inasmuch as we have already treated of them at page 387, and also for the reason, that these methods, whether made use of separately or together, are unsuitable for the treatment of the fibrous polypus, being adapted only for the vesicular or cellulo-vascular kind, which are of small size, of a soft consistence, and have a slender and very friable pedicle. Let us merely add, that this mode, successfully used by Boudon,** Mess. Récamier, Lis-

* Hippocrates de morb., lib. iii. p. 471., de effect., p. 517.

† Lib. vi. cap. viii. t. ii. p. 61.

‡ Galen de compos. med. sac. loca., lib. iii.

§ De composit. med. cap. 9. col. 201. collect. Stephan.

‖ Tetrabib. ii. serm. 2. cap. 92.

¶ Lib. iii. cap. 8. p. 206. Translation by J. Gaultherius, of Andernach. (24!) 1544.

** Levret (loc. cit.) relates that Boudon, after having in vain attempted to put the ligature on a polypus as large as a cricket-ball, which was implanted in the fundus uteri, twisted it off with his fingers, and thus effectually extirpated it. Lapeyronie

franc, and other practitioners of the present day, was not recommended by Dionis or Heister, except in nasal polypus, and not for the fibrous polypus uteri, an opinion that meets the approbation of nearly all the modern writers.

The *crushing* process was brought into use by M. Récamier, who, finding it impossible to apply a ligature, or to excise a polypus with the treatment of which he was charged, broke it to pieces with hook forceps, and with his fingers. In another case he divided the tumour into two parts by pressing the index finger against it, and then reduced it to a pulpy consistence with his hand, so that he extracted it in less than two minutes. In another instance, this distinguished practitioner, in consultation with Professor Dupuytren, made use of the combined methods of crushing and avulsion, proceeding as in the management of a case of nasal polypus. The latter appears to me preferable to the two before-mentioned procedures, and should be resorted to in certain cases, where we can neither succeed in adjusting the ligature, nor in amputating the root of the tumour.

The *ligature* of polypus uteri, and also the operation by excision, were recommended by Philotenus, (loc. citat.,) who, according to the historical researches we have made on this point, is the only ancient author by whom it has been mentioned. Where the works of Hippocrates, and those of the Arabians, allude to the subject of polypus, it is always to nasal polypus that they refer; the ligature, employed solely in this case, was improved many centuries afterwards by Salvid Fallopias, but it is to Levret that really belongs the merit of having employed it in the cure of polypous tumours of the womb, and of having invented some very ingenious instruments in 1742, for the purpose of adjusting the ligature upon the tumour. Dr. Herbiniaux, a physician at Brussels, was not satisfied with Levret's direction as to the application of the ligature to the polypus after its descent into the vagina only, but positively directs it to be applied even to the tumour, while still contained within the cavity of the womb. Several other surgeons, among whom we may mention the names of Théden, Lecat, David of Rouen, Brasdor, Dessault, Nysten, Clarke, Laugier, Lœfler, Cullerier, Bouchet of Lyons, Mayor, of Lausanne, Paul Dubois, and many others quoted by Meisner in his Treatise, have also invented instruments for tying the polypus uteri. As those of Dessault are generally employed by practitioners at the present time, and as they are moreover suitable in all the varieties of the case, we shall confine ourselves to a description of that distinguished surgeon's method.

Dessault's instruments are three in number; 1, a port-knot forceps, which consists of a bifurcated steel rod, whose branches terminate each in a half ring, which, when brought together, are converted into a complete ring. This rod slides within a silver canula, so that the two branches of the steel rod may be brought together, or sepa-

also mentions a case of polypus torn off in the same manner by a midwife. The patient, who was sixty years of age, recovered very well; although the avulsion was performed with the design of reducing a prolapsed womb, for which the tumour was mistaken.

rated by moving the rod forwards or backwards in the canula. The canula, which is two inches shorter than the rod, is itself five or six inches in length, and has a notch at the lower end. 2d, a *port-knot canula*, about seven inches in length, slightly curved for the purpose of adapting it to the convexity of the polypus, and having two rings at one end, while the other terminates in a blade. 3d, a *knot-tyer*, which consists in a steel or silver rod of a given length, with a ring at one end, fixed at right angles to the rod, while at the other end, which is flat, there is a longitudinal slit for receiving the ligature. For use, these instruments are to be arranged as follows: in the first place, the canula of the port-knot forceps is to be pushed forward until the semicircles unite into a complete ring; through this is to be passed one end of a strong waxed ligature two feet long; the end of the ligature is then fixed in the notch at the end of the steel rod; the other end of the ligature is carried through the port-knot canula, and secured to one of the rings. Before proceeding to operate, a jointed speculum uteri ought to be provided, as well as some small fine sponges, several napkins, some sweet oil, and several ligatures; all things being thus prepared and arranged as above mentioned, we proceed to the operation in the following manner.

The patient having been placed on the bed, in the same manner as for the application of the speculum, and after having again ascertained, both by touching and by inspection, the position of the polypus, the thighs as well as the labia are to be separated by assistants, while the port-knot forceps and canula are both introduced by the surgeon, who holds them close to and parallel with each other, passing them upwards between the parietes of the vagina and the tumour, and, if necessary, betwixt the tumour and the womb. Having reached the highest point of the pedicle, he detaches the end of the ligature which was secured in the ring of the canula, which he takes hold of with the right hand, while with the left hand he keeps the port-knot forceps steady in its place. He next carefully encircles by the uterine extremity of the canula, the entire circumference of the pedicle, so as to enclose it, by bringing the canula round close to and parallel with the forceps, which had been kept unmoved in its place. Changing hands as to the two port-knots, the canula is now moved by the left hand outside of the forceps, whence it follows, that the two ends of the ligature are crossed in such a way that the one in the canula being retained by the other, the canula may be withdrawn without any fear of deranging the other loop of the ligature. Lastly, having next untied the end that was attached to the forceps, it is united with the other so as to pass them both together through the opening of the knot-tyer, which is pushed in as far as the pedicle, while the surgeon tightens the two ends so as to make the loop gradually close upon the polypus; when it is deemed that the constriction is sufficiently great, the two ends of the ligature are to be secured at the slit in the knot-tyer, to prevent them from relaxing the hold This being done, the operation is concluded by securing the knot-tyer to one of the patient's thighs with a bandage.

For the purpose of more readily adjusting the ligature to the tumour, and particularly with a view to simplify the process by

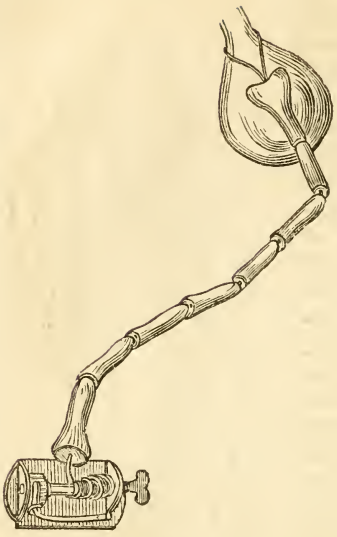
making use of a single instrument, the author invented a port-knot forceps, which he has denominated the polypodeon,* and which consists of two blades eight inches in length, and mounted like those of the common dissecting forceps, but provided with a very broad extremity, shaped like a spoon, and with a slide to approximate the ends by moving a rod lodged betwixt them. This rod also serves to carry forward a port-knot—(port-loop) between the blades, and beyond the uterine extremity of the instrument, armed with a simple loop of the ligature, arranged as in the *fig.* 40, annexed. The ends of the ligature are passed from within outwards through the holes and in front of the little pullies at the end of the stems of the port-loop. Every thing being arranged as above, (see the figure,) the end of the forceps is to be carried up along the sides of the polypus, and, by pushing forward the central rod by the ring, the tumour will be grasped at the same time that the port-loop will be carried up to its pedicle, that is to say, to the point to which it is designed to affix it. Should the tumour be found too large, the carrying forwards of the loop would be much facilitated, by pulling separately and alternately upon the ends of the ligature, until it reaches, upon the pedicle, the point on which it is desirable to affix it. When this is done, which is generally an easy task, both ends of the ligature are to be pulled so as moderately to compress the pedicle: in the next place, the central rod, which moves the port-knot, is to be retracted, which will withdraw both the port-knot and the branches of the forceps, so that the whole instrument being now completely opened again, is removed from the vagina, leaving the pedicle secured in the loop.

Fig. 40.

For the purpose of completing the strangulation of the pedicle, we make use of an instrument, consisting of a number of small tubes, each about eight or ten lines in length. To make use of this jointed constrictor, (*vide fig.* 41,) we twist the two ends of the ligature into a single cord, and then, having passed the cord through as many of the tubes as may be necessary, we secure it to a small

* From the Greek πολυπους, polypus and δεων from the verb δεω I tie.

Fig. 41.



tourniquet, which enables us to tighten the noose at pleasure. A long large-eyed needle, or a bodkin may be used to pass the cord more expeditiously through the tubes, or a piece of wire, bent into a hook at one end, may serve to thread the tubes with.

This instrument, which we constructed ten years ago, and which we supposed to have been original, is very analogous to one that a rich citizen of Cologne, M. Roderick, invented for the purpose of tying a polypus, which some of the Brussels surgeons, and even the celebrated Levret could not extract for him. This knot-tyer, *en chapelet*, which was used by its inventor in his own case with success, is precisely like that which M. Mayor, of Lausanne, supposed himself to have invented for the same use, some years ago. The constrictor *en chapelet* of M. Bouchet, of Lyons, and that by M. Levanier, of Cherbourg, are likewise nearly similar to Roderick's, a drawing of which may be seen in plate 87, fig. 9, of the surgical part of the Encyclopédie Méthodique, edited by de Laroche, and Petit-Radel in 1790.

Whatsoever be the method of applying the ligature, it ought to be a rule to draw it only moderately tight at first, for the purpose of avoiding the bad consequences that might follow a too sudden and violent strangulation of the pedicle. It should be afterwards gradually tightened so as to cut off the vascular communication between the polypus and the womb, and thus cause the tumour to fall off. The separation takes place at the very point of contact of the ligature, and not at the insertion of the pedicle into the womb, as was supposed by Levret.* That celebrated practitioner, and since his day, Segard,† Gardien,‡ and M. Gensoul, a very distinguished surgeon at Lyons, maintained the notion that a polypus, like the umbilical cord of a newborn child, is detached at the point of origin, whatsoever may have been the point at which the ligature is made. Although this doctrine, which has been sustained by several cases, published by Levret, Segard, and M. Gensoul, urges nothing contrary to the laws of the animal economy, both Boyer and Dupuytren, whose chirurgical opinions are of such great authority, look upon it as dangerous, and admissible only in cases where the ligature has been

* Jour. méd., t. xxxii. p. 536.
† Dissertation inaugur., Nov. 12, Paris.
‡ Traité d'accouchement, &c., t. i. p. 460.

affixed very close to the point of insertion. Though the portion that is below the ligature falls off, that which is above it often continues to live, to grow, and even to reproduce the tumour.

Where the pedicle is very slender, it sometimes happens that the ligature cuts through it, the moment it is applied; but, in general, the tumour does not separate until the fifth or sixth day. In a case reported by Leblanc, the fall of the tumour was put off for three months. In any case, where there should happen to be an attack of violent pain, attended with sleepiness, agitation, tumefaction of the belly, and intense fever, haste should be made to relax the ligature and not to tighten it again. nor even to apply a new one, provided it be wholly removed, until all the symptoms are completely relieved, either by the relaxation of the ligature merely, or under the influence of baths, injections, emollient applications, or bleeding, whether general or local, which ought to be had recourse to, provided they be indicated by any inflammatory movements. The application of a ligature to polypus uteri, has been seen to produce metritis and peritonitis almost invariably of mortal violence.

In case the pedicle be hard and of a large size, the first attempts at strangulation do not immediately interrupt the circulation between the womb and the tumour. The latter swells, becomes violet-coloured or blackish; its superficial vessels becoming distended with blood, burst and give rise to hæmorrhages that are followed by horribly fetid discharges, the contact of which irritates the genital passages, and may, by their resorption, give rise to fever of a pernicious character. For the purpose of avoiding, or at least, of diminishing the troublesome consequences of the ligature, care should be taken to make frequent use of emollient injections into the vagina, and afterwards, to order injections of bark, or what is still better, injections composed with chlorur. of the oxid. of sodium, diluted with water. Provided these measures should not succeed in lessening the bad symptoms, and particularly in case the pedicle of the tumour could be easily got at, or where, by drawing it gently downwards, it could be brought within reach of the instrument, we ought unhesitatingly to remove, by an incision, either with the probe-pointed bistoury, or the scissors, the whole of that portion of the mass below the ligature.

The separation of the polypus, which is known to be complete by the coming away of the knot-tyer, with the ligature unbroken, is followed by a purulent discharge, which yields to the use of the bath, and the common precautions as to cleanliness. In some instances, however, the nervous symptoms, the nausea and vomiting, the pain, and the inflammatory symptoms that often accompany the adjustment of the ligature, continue to be felt even after the removal of the tumour. Notwithstanding the disagreeable circumstances now set forth, as producible by the use of the ligature, we agree with Drs. Siebold and Mayer of Berlin, that it is to be preferred to all the other operations: 1, where we can feel the pulsation of an artery in the substance of the tumour: 2d, where the pedicle is so large as to give reason to fear that it may comprise some large blood-vessels; but, in a case of

this sort, we think that the tumour should be cut off below the ligature, provided it should prove to be too long in separating the polypus, or give rise to any of the accidents we have spoken of; in fine, we look upon the ligature as preferable to all other means, in cases where the excision of the pedicle appears to be too difficult of execution; or where the woman is so much reduced and anæmic as to make us fear the smallest loss of blood. It should be mentioned, that the use of the speculum is of the greatest advantage in most of the operations required for the cure of polypus uteri.

In consequence of the serious objections to the ligature, and the terrible accidents that sometimes follow its application, M. Dupuytren, and most of the modern practitioners, prefer to remove the pedicle by means of the knife. This preference of excision, as a general method, is fully justified by the anatomical character of the fibrous polypus; for, in fact, M. Hervez de Chégoin (loc. cit.) has proved incontestably, that the pedicle of the tumour is formed at the expense of a layer of the uterine tissue, and that the ligature is generally affixed upon this very layer of muscular tissue, evidently furnished by the womb itself, and whose strangulation gives rise to the symptoms we have described. Hence it may readily be conceived that the section of the pedicle, though it take effect also upon this muscular layer, does not give rise to the bad symptoms, because the cutting instrument acts promptly and instantly, instead of after the slow, continuous, and irritating mode of the ligature; and it produces a simple wound from which nothing is to be feared, especially when we reflect upon the number of cases where the os uteri has been amputated, without any immediate symptoms being occasioned.

The excision of a uterine polypus is as simple as it is facile; the operation, which was adopted exclusively by Dupuytren, and had been recommended by Philotenus, and Moschion, (*de mul. affect.*) and also successfully practised, according to Levret, by Tulpius, Vater, and Frouton, is to be performed in the following manner.

The patient being placed in the same position as the one recommended for the operation with the ligature, the surgeon introduces the jointed speculum, in order first to reconnoitre the tumour, and then to seize it more effectually in a Muzeux forceps: he then tries to draw it downwards very gently and carefully, exhorting the woman, at the same time, to bear down as in labour. As soon as the pedicle of the polypus becomes accessible, it is cut off with a pair of scissors, curved on the flat, or with a long probe-pointed bistoury, that is somewhat curved both on the flat and edge. Provided the tumour should be found to be soft, and easily torn, the surgeon, in imitation of M. Lisfranc, might seize the cervix itself and pull the uterus in this way downwards, until the operation is concluded.

For the purpose of getting a firmer hold, and of more easily drawing down the polypus, without being obliged to make use of two Muzeux forceps at once, which is not only inconvenient but hazardous, and likewise to avoid the necessity of making use of the forceps, as advised by Herbiniaux, Deneux, Murat, Lobstein, Hervez

de Chégoin, and other authors, an inconvenient and difficult operation, we make use of our quadruple érigne, the uteroceps, (*see adjoining figure, which needs no explanation,*) which seizes the tumour circularly, and never interferes with, nor masks any of the manœuvres, because the hand that holds it is always placed opposite to the perineum.

Fig. 42.

Where the polypus resists steady traction, instead of letting it go up again, we hold it down at the same point by giving the quadruple érigne to an assistant. Proceeding along the superior and convex surface of the tumour, we then, with the right hand, carry up our probe-pointed bistoury, which is curved both on the flat and edge, so as to reach and divide the pedicle at its most contracted point; always guiding the instrument by the left index finger.

Where the polypus is a small one, we first bring it into view with the speculum uteri, and then, seizing it with our forceps, we withraw the speculum, and pulling the tumour down far enough, cut it off. With a view to prevent the patient from suffering unnecessary pain, and to perform the operation with greater rapidity, the pedicle might be divided with the sickle-shaped knife, which we make use of in exscinding at the bottom of a speculum the small fungous vegetations that are occasionally to be found growing upon the os tincæ. (*Vide the fig.* 38.)

Fig. 43.

In a case where the tumour should prove to be too large to pass readily through the external organs, which is, however, a rare occurrence, it might become necessary to enlarge the orifice by cutting through the perineal membrane, the *fourchette.* Or the tumour, as in Béclard's case,* might be divided into two equal longitudinal portions, and removed from the vagina in succession. Lastly, where the root of the tumour is still concealed within the uterine cavity, the surgeon might try the semi-inversion, recommended by Baudelocque, for it is well known, that to such a partial inversion of the womb, lasting but for a few moments, there is attached no other inconvenience than that of being, in the case of a virgin, or a woman who has never had children, very difficult, or even impracticable. Under such circumstances recourse might be had to the ligature, or to the division of the circle of the os uteri itself, by means of the bis-

* Acad. de Médecine, Jan. 27, 1825. M. Chasagnac, in a similar case, successfully removed a large fragment of a wedge-shape, from a fibrous polypus.

toury, according to the plan practised by Dupuytren and Hervez de Chégoin. The former of these surgeons, in two cases of the sort, made one incision into the posterior part of the cervix, and one on each side, after which the polypous tumours were extracted easily, and with complete success in both cases.*

Should the polypus have contracted adhesions to the vagina, they ought to be loosened gradually, by means of scissors bent on the flat, before drawing down and cutting off the pedicle. Lastly, should the case be one in which the polypus is separated from the surface from which it springs by a deep or a shallow fissure, or by a very short and thick pedicle, the operation need not, on that account, be renounced, but even where the pedicle can not be got at, as much of the tumour as can be got away, ought to be removed, as was successfully done by M. Lisfranc; for a number of instances exist, that go to show that the part left after the operation becomes detached, or undergoes a process of suppuration. In imitation of the example set by M. Récamier, we might likewise divide, by a longitudinal incision, the layer of muscular tissue that envelops the morbid fibrous material, and then detach or eradicate the latter with the fingers or with a scalpel handle, just as a kernel is taken out of the fruit that encloses it. The ragged membranous laminæ that are left by this process of enucleation, retract and heal over as they return to their natural situations, or they are partially lost in the suppurative operations that ensue. It is right to remark, that when a polypus has formed adhesions to the muscular membrane that covers it, there is almost always a vascular connection established, and hence, if the whole tumour is not taken away, the remainder continues to live, and at length requires the performance of another operation, instances of the kind having been reported by various authors, as Herbiniaux and MM. Récamier and Lisfranc.

The dread of hæmorrhage, which had caused the operation by the knife to be rejected in the case of polypus uteri, in universal preference of the ligature, is not justified, except, perhaps, by the case related by Zacutus Lusitanus,† who died at Amsterdam in 1642. This celebrated Portuguese who, from fear of the Inquisition, migrated to Holland, informs us that a quack, having removed by incision, a polypus of the size of an almond, lost his patient with the hæmorrhage that followed his operation. However this may have been, it ought to be stated that such a serious consequence was never known to follow the numerous operations performed with the knife by Dupuytren. In only a single case, was some special attention required

* Revue Médicale, tom. ii. p. 382, 1829, and the Nouvelles Eléments de path. méd. chirurg. of Mess. Roche and Sanson.

† M. Bérard (*Dissertations sur plusieurs points d'anat. pathol.* 14 *Feb.* 1825), cites the case of a polypus having a primitive insertion at the fundus uteri, but which, in consequence of adhesion to the vagina, was attached to the posterior wall of the vagina, as by a second pedicle. Professor Alibert informed us that he had seen a patient with a double tumour formed in the recto-vaginal septum, part of which came out at the anus and the other part at the vulva; the two portions, having inflamed, cohered, so as to inclose the perineum in a sort of ring.

on account of the loss of blood. The case reported by Herbiniaux, Boyer's, all those convincing ones by MM. Siebold, Mayer, Lisfranc, Hervez de Chégoin, Villeneuve, Velpeau, Lejeune and a number of operations of the same sort, exempt from consecutive hæmorrhage, prove how greatly exaggerated have been the fears entertained upon this point. Besides, if the patient should be attacked with hæmorrhage of an alarming character, it could be treated by means of astringent injections, cold applications to the thighs and hypogaster, and in fine, with the tampon, composed of pledgets of lint, moistened with an astringent preparation, or sprinkled with resin, or where that could not be readily procured, with common ashes.

In a comparison of the ligature with the excision, the advantage always is on the side of the latter. In fact, if on the one hand we reflect that the ablation by the knife is less painful, that the woman is promptly relieved, and that the fears on the subject of hæmorrhage are nearly chimerical;* and, on the other hand, that the ligature produces severe pain, and the fall of the tumour requires a considerable lapse of time; that the ligature must be tightened every day, that the patient must be visited and examined day after day, and, finally, that fatal inflammation may follow the strangulation of the pedicle, and especially that the patient may be affected with nervous and adynamic symptoms, arising from the putrefaction of the polypus and absorption of the fetid discharges; when we take into consideration the inconveniences and advantages on both sides of these surgical measures, we ought not to hesitate in looking upon the operation by excision as the general rule, and that by the ligature as the exceptional case. To conclude, let us add, that both operations are to be regarded as inadmissible, where the tumour is wholly enclosed within the cavity of the womb; where we are assured that it is not single, and where we have ascertained that there are other tumours in the organ, yet not within reach of the chirurgical means of assistance.

The cares required by patients, subsequently to the operation, consist in the exhibition of injections, at first of an emollient, and then of a detergent and slightly tonic quality; should any inflammatory symptoms show themselves, and particularly, should the patient be of a plethoric habit, we ought to have recourse to venesection, cautiously administered, and to all the antiphlogistic measures, both general and local. Let it also be said that Dupuytren, for the purpose of obviating the irritation and pain that are often found to follow the removal of the polypus, established it as a general rule, that the patient should be bled from time to time, in small quantity at each bleeding, provided she had been long subject to floodings, which are entirely stopped by the operation.

It remains for us to speak of polypus of the vulva and vagina; the former are easily recognized, and the treatment of them so simple that

* The ligature may, in certain cases, be followed by hæmorrhage; for M. Monfalcon (Dict. des Sci. Méd.) says that "M. Dubois was so unfortunate as, on several different occasions, to lose, by rapid hæmorrhage, the patients relieved of polypus uteri by the application of the ligature."

it is only necessary to state that they may be met with in practice. The latter, which are quite analogous to those of the womb, but not so generally of the fibrous sort, are readily distinguished by the touch, which shows that the os tincæ, and the entire surface of the cervix, are completely free, and have no connection with the polypous tumour. Any mistake ought to be regarded as out of the question, where we can touch the pedicle and ascertain the precise point of its insertion on some part of the vaginal walls. All we have to say is that the vaginal polypus produces less frequent hæmorrhage than polypus uteri, and that the surgical treatment most generally suitable for the case, is the ligature, which may be most easily applied merely by means of our jointed constrictor.—(*Vide fig.* 41, p. 404.) Where the tumour is deep seated, it should be brought into view with the speculum uteri, taking care to lodge it in the space betwixt the blades of the instrument.

## INFLAMMATION OF THE OVARIA AND FALLOPIAN TUBES.

Of all the disorders of the ovaries and tubes, the most common, beyond doubt, is inflammation, known under the title of *ovaritis* or *oophoritis*. Although these organs do participate, more or less, in the phlegmasiæ of the uterine tissue, it happens that they may be separately attacked with inflammation of an acute character, or in a subacute or chronic form. But as the ligaments of the womb, the tubes and the ovaries, are closely united, and are, moreover, deeply seated in the abdomen, the signs of inflammation are common to the whole of them; for it is almost impossible to distinguish which of the parts is the special seat of the disorder. We add, moreover, that the existence of the lesion generally eludes observation until the morbid development of the uterine appendages becomes sufficiently considerable to be felt through the parietes of the abdomen.

An acute inflammation of the ovaries, chiefly met with in young females, is generally produced by laborious parturition, by a suppression of the lochia, an acute puerperal metritis, and especially by an inflammation of the uterine peritoneal membrane.

The *causes* which have been considered capable of producing this disorder, independently of the circumstances of the puerperal condition, are, a blow, a fall, a wound and contusion in the iliac region, a degree of nervous sur-excitement, and all the irritations connected with erotic excitements; and, in fine, whatever causes may serve to give rise to an attack of metritis, such as sudden refrigeration of the body, the suppression of the menses, or a painful menstruation which is difficult and imperfect; the abuse of emmenagogues; the use of substances designed to produce abortion, and such exciting articles as are known under the denomination of aphrodisiacs.

The *symptoms* of inflammation of the ovaria are: a sense of heat and a pungent pain in either side of the pelvic excavation. Both the touch and inspection disclose a rounded swelling, resisting, and very sensitive to pressure, situated in the part. The swelling and tension

are propagated over the whole abdomen, and the pain almost always shoots towards the loins, and also extends down the thighs, which are the seats of an extreme degree of torpor and lassitude. The belly, which, in some cases, is pretty supple to the touch, and may remain so throughout the whole progress of the malady, becomes more and more sensitive as the disease extends; and it frequently happens that the lightest touch of the hand gives rise to spasmodic contraction of the features and convulsive motions of the lower limbs. When both of the ovaries are affected at the same time, which is mostly the case, two tumours are produced, at first distinct from each other, but which gradually approach each other, and at length unite into one swelling, under the median line. To these local symptoms are conjoined frequent pulse, heat and dryness of the skin, ardent thirst, extreme disgust, violent agitation, difficult and painful expulsion, both of urine and stool; and, lastly, nausea and vomiting, showing that the stomach sympathizes in the ovarian phlegmasia. We should observe that all the general symptoms resulting from this disorder, vary not only according to the individual disposition, but also in proportion to the intenseness of the attack and its complication with acute metritis and peritonitis, which so often coexist with acute ovaritis, and particularly with puerperal ovaritis.

The progress of the disorder, when acute, is about the same as that of an acute inflammation of the uterine tissue itself. It may terminate in resolution, from the eighth to the eleventh day. In such case, the menses return, and the lochia increase in quantity; the pain, as well as both the general and local symptoms, gradually diminish; the tumour, whether single or double, retires, little by little, and at length disappears entirely. A case of acute ovaritis may also prove rapidly fatal, particularly where it is complicated with an attack of puerperal metro-peritonitis, which is itself so frequently mortal. This affection may also end in suppuration, from the twelfth to the fourteenth day. Such a termination is indicated by alternate chills and flushings, by softness of the pulse, an increase of throbbing pain, coincidently with the lessening of the general symptoms. Where this happens, the pus escapes by different routes; it has been seen to penetrate into the peritoneal sac, and give rise to an attack of peritonitis, which is almost always the cause of a speedy dissolution. We witnessed a case of this kind at Dupuytren's clinic: Dr. Seymour* also reports a sample of the kind; and M. Andral cites from Brehm (*Dic. de Méd.*, in 24 vols., t. 16) the case of a girl who, after suffering for fourteen days with a severe pain in the right side of the pelvis, was seized, after some time, with all the symptoms of a peritonitis, that soon proved fatal. In addition to the traces of peritoneal inflammation, it was ascertained by the autopsy that the pus which had filled the right ovary had escaped through two large openings into the peritoneal sac. In some instances, it may happen that the acute inflammation, produced by the purulent

* Illustr. of the Principal Dis. of the Ovaria, p. 40.

collection, shall act in a salutary manner, and cause the formation of adhesions, which, by preventing the pus from spreading itself abroad, allows of its directing itself to the external surface, or to become one of the means of creating an encysted tumour.

In most cases, the pus is directed towards the colon or the rectum, and, discharging itself into the intestine, at last passes out at the anus. Facts of this kind are stated by Madame Boivin;* by Messrs. Nauche,† Dugès,‡ Martin Solon,§ and other practitioners.

The pus may also find issue from the vulva, either by making an opening into the vagina or by passing along the cavity of the Fallopian tube.‖ The pus has also been observed to move towards the iliac region, and open at that point.

[I saw a case, a few years since, in a young woman, the mother of two children, who, after her confinement with the third, was seized with the symptoms of ovaritis. The malady was most painful, and extended considerably into the peritoneum near the left ovary. A hard and extremely painful tumour gradually formed in the lower part of the left iliac region, which fluctuated and pointed. I opened it with a common lancet, and discharged near a pint of pus. The purulent discharge continued for many days, but the patient at length recovered her health very completely. I saw a similar collection that attacked a lady affected with carcinoma of the cervix uteri. The discharge was very great, but the abscess was cured. She ultimately died with ulcerated carcinoma uteri.—M.]

Some cases are met with, in which the purulent product passes into the urinary bladder, and then escapes through the urethra, as in specimens described by Messrs. Murat, Andral and Dugès. In fine, acute ovaritis may terminate in gangrene; but it most generally passes into a chronic form of inflammation, which is known by a marked diminution of all the symptoms. In this case, the engorgement of the ovary may be dissipated in the course of time, longer or shorter, or, what much more commonly occurs, the chronic inflammation may be indefinitely prolonged, the ovary becoming indurated, scirrhous or cancerous, or undergoing various alterations, which we shall treat of presently, and whose symptoms differ according to their several kinds. But it is quite true, that although the different vital lesions to which the ovaries are exposed, are almost always produced by an attack of inflammation, either acute or chronic, they may yet, in some instances, arise and make progressive developments, independently of any appreciable signs of inflammation.

* Recherches sur une des causes de l'avortemen, 1828.

† Des maladies propres aux femmes, p. 375.

‡ Maladies de l'utérus, t. ii. p. 572.

§ Dict. de méd. et chirurg., prat. t. xii. p. 416.

‖ In the fifth case of the Mem. de l'Acad. des Sciénces, for the year 1700, is an account of a woman who had never menstruated, and in whom, after death, was found an abscess of the ovary which emptied itself into the vagina along the cavity of the Fallopian tube, and through the womb. M. Laumonier (Mem. de la Soc. Royale de Médecine, 1782, p. 300,) reports a very similar case.

The *diagnosis* of ovaritis is, for the most part, an obscure one. While we may clearly distinguish it from an attack of metritis, or cystitis, by reference to the situation of the affected part, we may very easily confound it with inflammation of the parts about the side of the womb, and particularly with inflammation of the cellular texture, which is so abundant in that vicinity. An ovaritis may also very easily be confounded with inflammation of the Fallopian tube, and can be distinguished from it, during life, only by the absence of the rounded swelling in one side of the pelvis. Fortunately, a mistake in the diagnosis of these different cases cannot lead to any unfavourable consequences; for the treatment indicated for the one is equally applicable to the other of these affections. Besides, it is an uncommon circumstance for the ovaries and the ligaments of the womb to become inflamed without drawing the relaxed parts into a participation in the malady; or they are even, most generally, the radiating points of the inflammation.

The *prognosis* of acute ovaritis depends upon the extent and intensity of the disease; it is much more serious when co-existent with puerperal metritis and peritonitis, and when developed like the last named affections, under an epidemic influence. Chronic ovaritis is rarely cured; it almost always passes into a state of scirrhous induration, which, however, in many specimens, does not hinder the patient from drawing out a long-continued existence.

[I interrupt for a moment the detail, for the purpose of protesting against the plan of our author, of treating as a case of ovaritis, those terrible inflammations that ensue upon the puerperal state, and commonly known as child-bed or puerperal fever. I apprehend, that in the management of a case of the disorder in question, particularly under an epidemic influence, the practitioner will find it necessary to combat not an ovaritis, (although the ovary is a most common seat of the inflammation,) but a general inflammation of the tissues invested by the peritoneum. The womb, the tubes, the ovaries, the intestines, the spleen, liver and stomach, are all involved in one common inflammation of their serous surfaces; and though it is quite true that we find deposits of pus beneath the ovaric peritoneum, we also find similar depositions below the uterine peritoneum, and within the ligamenta lata, in the veins, and even in the absorbents of the uterus itself. It is disparaging the idea of a puerperal fever to call it an ovaritis.—M.]

*Anatomical character.* In its acute stage the ovaries are found swollen, red, and more or less injected with blood; their vesicles are always larger than in the natural state; sometimes they are found larger than an orange, and their tissue, which is soft and friable, is infiltrated with a yellowish or violet-coloured serous fluid, or in it contains collections of pus, either liquid or in a concrete form; the pus may also be seen collected in one, or in several cysts of various sizes, and then the ovary will generally be found to have formed adhesions to the adjacent parts. Finally, when the disorder is of an

ancient date, the organ is but littled injected with blood, and is, in a measure, destitute of capillary vessels.

The *treatment* of acute ovaritis consists in the employment of venesection, which should be reiterated according to the violence of the symptoms and the strength of the patient; recourse should be had, from time to time, to the application of leeches to the groin, near the affected part. Cataplasms should also be laid upon the hypogastrium; baths, emollient and slightly narcotic injections, demulcent and diluting drinks, slightly acidulated, should be prescribed; lastly, rigorous diet and absolute rest add greatly to the efficacy of the other antiphlogistic measures.

Should the disease terminate in suppuration, so as to allow us to perceive an evident fluctuation at the groin, or within the vagina, there ought to be no haste to open the abscess and draw off the pus; but we ought to wait, in order to allow of the formation of adhesions. Upon coming to the determination to open the abscess, it would be well, if the groin be the spot selected, to apply a portion of caustic paste to the point chosen for the incision; such a proceeding possesses the twofold advantage of promoting adhesion, and the formation of an eschar through the centre of which the opening can be made with the bistoury. In case the fluctuation should be felt in the vagina, instead of at the inguinal region, the abscess should be opened with a bistoury or a trocar; the absorption of such portions of the pus as could not be discharged, might be afterwards promoted by the use of diaphoretic drinks, and some gentle purgative doses. When the disease ends in gangrene, recourse might be had to blisters, frictions, and camphorated lotions externally, with the use of antiseptics and chlorurets internally used.

In those instances where the ovaritis has already passed into the chronic state, or had assumed, from the beginning, a chronic character, resort should be had to external revulsive measures, such as blisters, issues, moxas, setons established in the iliac region, and frictions at the same point, with antimoniated ointment, mercurial ointment, or ointment of hydriodate of potash; douches of the sulphur waters of Aix in Savoy, or of Barèges, to be directed on to the groins, or in the ascending form to the vagina; lastly, leeches in small numbers; topical applications of extract of cicuta, of colchicum or opium, and narcotic injections. Such, perhaps, is the entire series of external measures demanded for the treatment of chronic ovaritis, whether primitive or consecutive in its attack. At the same time that we are administering remedies of the kind above pointed out, we should order the internal use of sudorific drinks, composed of saponaria or sarsaparilla; calomel, aloes and cicuta in small doses; castor oil; the mineral waters of Plombières, of Néris, of Luxeuil, or Bourbon les Bains; and, lastly, we should direct the patient to fix her residence in a dry, warm situation; she should also be directed to wear flannel next to the skin; absolute rest, followed by moderate exercise, a very light diet, an extreme degree of sobriety in every sense of the term, could not but add to the efficacy of all other thera-

peutical agents, on which rest our hopes, if not of curing, at least of checking the progress of the disease.

The course to be followed in case of the inflamed organ becoming the seat of a collection of pus, would be the same as that pointed out in speaking of the treatment of acute ovaritis. However, we are of opinion that in no case whatever, should resort be had to the extirpation of the ovary, as has by some writers been recommended.

[I fully concur with the author in his disapprobation of operations for the extirpation of the diseased ovary; and I am free to say, that I look upon operations for the extirpation of the diseased ovary, as not to be justified by the most fortunate issue in any ratio whatever of the cases. I apprehend the ratio of success hitherto obtained, as not justifying the operation. In the illustrations of some of the principal diseases of the ovaria, &c., by Ed. S. Seymour, M. D., Lond., 1380, the author, at page 124, makes the following judicious remarks, which appear to me quite applicable to the increasing disposition to prosecute this dangerous surgery. In speaking of the operations by M. Lizars, and other surgeons, Dr. Seymour was not blinded by the success—he says, "If the tumour be not large, and the woman's health unbroken, she may live many years; as long as is allotted to humanity, in the enjoyment of a tolerable existence. If the health be much broken, the cure of so large a wound in a weakened constitution would be difficult, if not in the great majority of cases impossible. If connected with scirrhus in other parts of the body it is inadmissible; and if the growth itself be of the nature of fungus hematodes, all experience tells us, that should the operation be survived or the wound healed, the disease will recur in other vital organs of the body." The statistics of the operation show, that out of some sixty or seventy operations, there have been lost about one-half of the subjects, while the other half have recovered—or, in other words, escaped a present death, and perhaps, in a few instances, recovered a secure and long life. Let not, however, the ardent and young reader be infatuated with even such success as this, until he shall first have satisfied his conscience and judgment as to the grounds upon which so desperate an operation is instituted. Let him lay to heart Dr. Seymour's remarks just quoted, and let him assure himself that persons, and many persons, indeed, are known to carry these tumours through a long existence, with even very little inconvenience, and that in some cases they actually diminish in size, while the inconveniences attending them nearly disappear. Let him place these facts in contrast with the frighful incision extending from the umbilicus to the pubis, and the subsequent handling, pulling, tying, and resection of the tumour with the consequent inflammation. As to the opening of the abdomen, in cases requiring the Cæsarian section, I look upon that operation, however dreadful, as inevitable, because it presents the only hope of escape from sudden and *imminent* death—whereas, in the case of a chronic ovaritis, no matter what may be the particular form with which the malady clothes itself, there remains a great uncertainty as to the future development and

influence of the tumour. I attended, for example, a lady in several successive labours, while she laboured under a chronic ovaritis, accompanied with immense developments of the abdomen, from fluid in the ovarian cyst. This state of things continued some twelve or fifteen years, until at length finding the weight too considerable, she allowed the fluid to be drawn off by an operation for paracentesis abdominis. After the evacuation of the sac, the solid portions of the tumour were distinctly felt in the lower and left side of the abdomen. For five years she continued gradually to fill up the tumour again until she was again tapped, and now more than three years have elapsed, and she enjoys very comfortable and active health, though it is probable that within another year she may require a repetition of the operation. It is quite true, that the operation for tapping is a dangerous one, particularly a first tapping, and it has been shown by FleetwoodChurchill, of Dublin, that the operation of tapping, in twenty cases, had the following results: "Thus, fourteen died within nine months after the first operation, four of whom survived it only a few days. Of the remaining six, two died in eighteen months, and four lived for periods varying from four to nearly nine years." Dr. C. takes this table from Dr. Southam's article in the Medical Gazette. It ought to be observed that six of these persons were over forty years of age, and, for aught we know, the operation may have been deferred until the pressure and other disturbing influences of the tumour had utterly ruined the constitution. Indeed, Dr. Blundell's opinion, that the operation should be performed early, if at all, is worthy of all approbation.

In the United States, the extirpation of the tumour has been repeatedly effected with success, as may be seen in the table to be given on another page; but it is equally true that frightful disasters, very little creditable to the healing and conservative powers of surgery, have occurred; disasters sufficiently terrible one would think, forever to deter from engagement in the risks of reproducing them. It ought to be remarked, that the ovary, when once fully engaged in the course of morbid changes, that result in the development of what is called ovarian tumour, has already cast off, so to speak, its allegiance to the common government of the economy. Its hypertrophic, or carcinomatous or hydropic law rules it supremely, and it is far from being a settled point, that the tying up of the root or pedicle of the tumour, can be relied upon, for the total extirpation of those principles of morbid nutrition, or secretion on which the mass depends for its support and growth. In case a female should, by fortunate accident, escape with life, the smallest remaining portion of the diseased structure, a leaven, which leaveneth the whole lump, should be esteemed capable of coming, in time, to be as large and as troublesome as before the extirpating operation. The *Dublin Journal of Med. Science*, for July, 1844, contains a very interesting paper by Dr. Fleetwood Churchill, entitled Notes on Ovariotomy. Dr. C. has collected the results of sixty-six cases, in which the diseased, or supposed diseased ovary, was removed, or attempted to be removed by the sur-

geon. He gives three tabular statements, with the names of the surgeons, the size of the incisions, the results, and the character of each tumour, which we subjoin in the tables.

TABLE I.—*Cases of Extirpation of the Ovary.*

| No. and date. | Operator. | Age. | Incision. | Result. | Character of disease. | Adhesions. |
|---|---|---|---|---|---|---|
| 1, | L' Aumonier, | | 4 inches, | Recovered, | Abscess of ovary. | |
| 2, 1809 | Dr. McDowell, | | 9 " | " | Gelatinous matter. | |
| 3, 1816 | " " | | Long, | " | Scirrhous ovary. | |
| 4, | " " | | " | " | | |
| 5, | " " | | " | " | | |
| 6, | " " | | " | Died, | | |
| 7, 1821 | Dr. N. Smith, | 33 | 3 inches, | Recovered, | Cyst, fluid. | Adhesions. |
| 8, 1825 | Mr. Lizars, | 36 | Long, | " | | |
| 9, 1825 | " " | 35 | " | Died, | | Adhesions. |
| 10, | Dr. A. G. Smith, | 30 | " | Recovered, | Cyst, fluid, | |
| 11, | Dr. Quittenbaum, | " | About 4 in., | " | | |
| 12, 1829 | Dr. David Rogers, | " | " 3 " | " | Solid and fluid, | Adhesions. |
| 13, | Dr. Granville, | " | " " " | Died, | | |
| 14, | Dr. Chrysmer, | 47 | Long, | " | Cartilaginous and lardaceous matter, | Adherent. |
| 15, | " " | 38 | " | Recovered, | Honey-like and green sanies, | " |
| 16, | " " | " | " | Died, | | |
| 17, | Dr. Ritter, | 31 | " | Recovered, | Cyst, fluid. | |
| 18, 1836 | Mr. King, | 57 | Short, | " | " | |
| 19, 1833 | Mr. Jeafferson, | " | " | " | " | |
| 20, | Mr. Dolhoff, | 23 | Long, | Died, | Cyst and fluid, | Adhesions. |
| 21, 1836 | Mr. West. | " | Short, | Recovered, | " | |
| 22, | " | " | " | " | " | |
| 23, | " | 24 | " | Died, | " | |
| 24, | " | " | " | Not cured, | " | |
| 25, | Mr. Hargraves, | 10 | " | " | Multiloc. cysts, | Adhesions. |
| 26, | Dr. Clay, | 46 | 27 inches, | Recovered, | Cysts, solid and fluid, | " |
| 27, | " | 37 | 14 " | " | " | Ext. adhes. |
| 28, | " | 39 | 28 " | " | " | " |
| 29, | " | 10 | 14 " | Died, | " | " |
| 30, | " | 22 | 14 " | Recovered, | " | Adhesions. |
| 31, | " | 10 | 14 " | Died, | " | None. |
| 32, | " | 13 | 14 " | Recovered, | " | Ext. adhes. |
| 33, | " | 59 | 16 " | Died, | " | " |
| 34, | " | 16 | 16 " | Recovered, | " | " |
| 35, 1840 | Mr. B. Philips, | " | 2 " | Died, | | |
| 36, 1841 | Dr. Stilling, | " | 6 " | " | | |
| 37, 1842 | Mr. Walne, | 58 | Long, | Recovered, | " | None. |
| 38, 1843 | " | 57 | " | " | " | " |
| 39, | " | 21 | " | Died, | | |
| 40, 1843 | " | 20 | " | Recovered, | " | " |
| 41, 1843 | Mr. Morris, | " | " | " | | |
| 42, 1843 | Mr. Southam, | " | " | " | Cystic sarcoma, | " |
| 43, 1843 | Dr. F. Bird, | " | 3 or 4 in., | " | Cyst and fluid, | " |
| 44, 1844 | " | " | " | " | Cysts and sol. matter, | " |
| 45, | Dr. Atlee, | " | 9 inches, | " | " " | Adhesions. |
| 46, | Mr. Lane, | " | Long, | " | Cysts, fluid | None. |
| 47, | Mr. Key, | 19 | " | Died, | " | " |
| 48, | Mr. Greenhow, | 29 | " | " | | " |
| 49, | Mr. B. Cooper, | 32 | " | " | | |

TABLE II.—*Cases of Ovarian Disease in which the operation could not be completed.*

| Date. | Operator. | Cause of failure. | Result. | Incision. |
|---|---|---|---|---|
| 50, | Dr. M'Dowall, | Adhesion to bladder and uterus, | Recovered, | Long. |
| 51, | Mr. Ligars, | Solid and very vascular tumour, | " | " |
| 52, 1826, | Dr. Granville, | Firm adhesions, | " | 6 inches. |
| 53, | Dr. Dieffenbach, | Vascularity, | " | Long. |
| 54, 1826, | Dr. Martini, | Solid, fixed tumour, | Died, | " |
| 55, | Anonymous, | Fixed tumour, | " | |
| 56, | Mr. Dolhoff, | " | " | About 6 ins. |
| 57, | Dr. Clay, | Extensive adhesions, | " | Long. |
| 58, | Mr. Walne, | " " | Recovered, | 5 inches. |

TABLE III.—*Cases in which the operation failed from an error in diagnosis.*

| Date. | Operator. | Result. | Disease. |
|---|---|---|---|
| 59, 1823, | Mr. Lizars, | Recovered, | No tumour found. |
| 60, 1834, | Mr. King, | " | " " |
| 61, | Mr. Dolhoff, | " | " " |
| 62, | Dr. Clay, | Died, | Uterine tumour. |
| 63, | " | Recovered, | Hydatid. |
| 64, | " | Died, | Pelvic tumour. |
| 65, | " | " | Uterine tumour. |
| 66, | Mr. Heath, | " | " " |

After making the above statements, Dr. Churchill sums up the whole in the following manner. He says: "1. The entire number of cases, whether dropsy or scirrhus of the ovary, uterine disease, or simulated tumours, amounting to sixty-six: of these forty-two recovered, and twenty-four died, or about one in two and three-fourths."

"Of the forty-nine cases in which the ovary was *extirpated*, sixteen died, or one in three and one-tenth. Of the nine cases in which the operation could not be completed, four died, or one in two and one-fourth; and of the eight cases where the operation was unnecessary, four died, or one in two."

Dr. Churchill, among his *conclusions*, at p. 395, says: "But, bearing in mind these difficulties, and making allowance for these draw-backs, I think we may conclude that there are cases in which the operation would be justifiable; and on these grounds,—we find the general opinion is against the curability of the disease by medical means;—that after a time the patient will die from local disease, or accident, or constitutional disturbance, and that mean time she suffers more or less inconvenience; that tapping, in almost all cases, affords but temporary relief; and that, as far as the limited statistics we have adduced are admissible as evidence, it is attended with great danger; *i. e.*, one in five died of the first operation, and that of twenty

patients, fourteen (more than two-thirds) died within nine months of the first tapping; whilst of the entire number of those who underwent the operation of ovariotomy, about one-half have absolutely recovered so far."

I have thus laid before the reader, the results obtained by Dr. Churchill in his paper, but I wish him to reflect upon the value of statistical exhibitions of this sort; and to warn him against the seduction of statistics, in cases where we cannot judge of the necessity or the propriety of the risk to which the patient has been subjected. If, instead of ovariotomic ones, Dr. C. had given us the statistics of one hundred cases of Cæsarian operations where the antero-posterior diameter of the superior strait was known to be not more than two inches, and the fœtus alive, there would be no hesitation in agreeing to the propriety of the surgical measure, or even its absolute necessity; but under all the uncertainty as to the duration of life in chronic ovaritis, I contend, that even the very faint praise and admission of the operation given by Dr. Churchill, are indicative rather of his doubts than his approbation—his fears for the patient rather than his hope for the victim.

I freely admit that where the tumour has attained a certain magnitude, we have no hope left save that doubtful one, of the possibility that the tumour shall cease to augment, as *often* happens; and the reasonable expectation of the ability, under a wise treatment, to retard its progress and obviate its disturbing force in the economy.

Seeing that it is pretty well understood at present, that the catamenial office depends upon the periodical evolution of the Graafian vesicle, I beg leave to suggest to the reader the propriety of giving a due share of attention to that process in the management of all cases during the mensual life of the female, that have not gone, as to volume, beyond any reasonable hopes of control. For example, a lady from a distant city, aged about twenty-eight years, after suffering for two years after her marriage with very intense paroxysms of hysterical passion connected with irregular and excessive menstruation, gave birth to a child, and within eighteen months to a second, which was born about four years ago, (1840).

In the course of the winter of 1843, she discovered a small tumour in the lower and left side of the hypogastric region. It appeared upon the taxis to be some two and a-half inches in length by two inches in breadth, and was movable under the finger. The touch and the surpubal palpation, led me to the conclusion that the tumour was a chronic ovaritis of the left ovary. It was not painful, nor did it visibly affect her health in any regard, the menstruation being very regular.

I gave a written opinion on the case, upon the following grounds:

The violent hysterical excitements to which this lady was long subject, and from which she is not, even now, wholly free, derive their source from the ovaria and other reproductive organs. As she menstruates regularly, it may be supposed that each catamenial period will be one of affluxion towards these organs, whose hyperæmic condition cannot fail to add con-

siderable force to the morbific tendencies now in actual exercise in the ovary. Therefore, let attention be given to the subduction of the ovaric excitements, especially on the periodic occasions. If the mensual periods, which may be regarded as dangerous, or at least as mischievous crises, can by any art be made to pass by with the least possible disturbance, whether local or general, the tumour may be expected to develop itself very slowly, or, perhaps, even to retreat.

To this end, let the diet be carefully regulated, as neither too spare, nor too nutritious—let the clothing be warm, especially about the pelvic region and the lower extremities, with a view to avoid any check to the menstruæ. Let the bowels be kept in a soluble state. Let the patient take a bath at 97° three times a week, and go from the bath to her bed. Leeches sufficient to take three or four ounces of blood should be applied to the left groin, over the round ligament, four or five days before each menstrual period, with a view to obviate the then hyperæmic tendencies of the ovarian stroma. Let her not leave the house for three or four days of the period of return. During some months let her make use of proper doses, three to five grains, of the hydriodate of potassa, thrice a day.

I hoped by such measures to retard, at least, the growth of the tumour; and I find that after some months, in which the course has been faithfully carried out, there is a positive diminution of the size of the diseased mass. What shall be the result of the case, and what may be the power of the treatment to control or modify that result, must be left to time to disclose; but I conceive that in all such early or recent cases it would be important to fix the views of the practitioner upon the necessity of moderating the periodical hyperæmia of the reproductive organs.

I have never seen ovarian tumour commence after the cessation of the menses; and though such a case may have happened, it appears highly probable that the disease is intimately connected with the mensual function, which, by the alternate excitement and repose of the vesicular development, exposes it evidently to the danger of inflammation, acute or chronic, with all its consequences in the depravation of its texture.—M.]

## OF DROPSY OF THE OVARIES, AND FALLOPIAN TUBES.

Chronic inflammation of the ovary may give rise to various alterations whose existence remains for the most part unknown until discovered by a post-mortem examination. Thus, one of those organs has been found to contain a collection of hair, or portions of bones or teeth, which, according to the opinions of some authors, are the relics of an abortive conception, while others regard them as evidence of pregnancy *by inclusion*, or of an unnatural *nisus formativus*, inasmuch as similar collections have been found in various other parts of the body,* even in the male, and in virgins not yet arrived at

* Gordon discovered a tumour within the cavity of the thorax containing bones and teeth, surrounded by a substance resembling tallow. Professor Andral discovered

puberty, as in the cases reported by Messrs. Baillie,* Seymour,† Cruveilhier,‡ and Andral.§

The preternatural and encysted products in question have been very often met with; as they never grow to a very large size, their existence is rarely suspected during the life of the patient; besides, it is probable that they are much more frequently the causes than the effects of ovaritis. That disease, when chronic, on the contrary, much more generally ends in scirrhous indurations, in encephaloid softening, in tumours, either homogeneous or filled with hydatids, and especially in an encysted tumour, known as dropsy of the ovary, of which we shall proceed to treat.

This kind of dropsy is not only the most common of the encysted dropsies, but also the most ordinary form of ovarian disease, and one, indeed, to which the female is most liable. Though it be probable that the formation of the serous cysts which constitute the disease, always takes place in the same manner, it has been divided into several varieties, as, 1st. *Uni-locular cysts*, that is, where the ovary is converted into a single sac, which is generally polished on the external surface, of a globular shape, though sometimes multilobular or pyriform, and attaining so great a size, in some instances, as to distend the abdomen like a common ascites. 2d. *Multi-locular cysts*, composed of a number of cells, each communicating with the others, or else of several groups of distinct lodges, though their constituent parts are connected together. The cysts comprised under this variety are mostly lumpy on the surface. 3. *Multiple cysts*, or such as, though distinct the one from the other, yet, by their aggregation, make up the tumour. Each one of these cysts may be either uni-locular or multi-locular. There is generally one principal cyst which effaces, in a manner, all the rest; so that the external surface of the mass is smooth, instead of being lumpy. 4th. *Areolar cysts*, in which the ovarian tissue is divided into areolæ, or cells, containing a peculiar gelatiniform matter. According to M. Cruveilhier, this variety of the multi-locular cyst is like the areolar cancer, especially the areolar cancer of the stomach, from which it differs only in the greater size of the meshes.

5. *Acephalocyst cysts*, which rarely become as large as the other serous cysts above mentioned, and are, moreover, distinguished especially by containing hydatids, which we need not again advert to.

The texture of an ovarian cyst is commonly fibrous, and contains blood-vessels. In some instances, it is found to be very thin; in

another between the laminæ of the mesentery in a negro woman; the tumour, which was as large as a fœtal head, contained, in the midst of a quantity of fatty matter, a collection of hair, some of which was isolated, and the rest in bunches. It should, however, be observed that these preternatural collections are most frequently met with in the ovaries, and that here, as well as elsewhere, they are surrounded by a quantity of steatomatous matter, as is shown in the cases related by Portal, Meckel, Logger, Murat, Cruveilhier, Paul Marshall, Andral and others.

* Anat. Pathol, p. 319.

† Illustrations, &c. of Diseases of the Ovaries, 83.

‡ Essai sur l'Anat. pathol., t. ii. 180.

§ Précis d'Anat. pathol., t. ii.

others, on the contrary, it is very thick,* and has a steatomatous appearance. Its internal surface, which may happen to be smooth, is more frequently found to be rugous and uneven. According to Hooper† and M. Cruveilhier,‡ (loc. cit.,) the walls of the sac are sometimes observed to be nodose, and to contain laminæ of cartilage and even of bone.

The fluid contained in the cyst is generally serous; it may be limpid, ropy, like albumen, of a gelatinous appearance, sanguineous, purulent, of a chocolate colour, or like coffee grounds, &c.

In the multi-locular dropsies, the fluid may differ in the different cells, as to its colour and its nature, and may even undergo putrefactive decomposition, giving rise to gases, whose escape through the trocar-canula leads the surgeon to suppose that it communicates with an intestine.

The quantity of fluid contained in a dropsical ovary varies very much in different specimens. At first, the morbid accumulation of serosity is scarcely perceptible; but, in a more advanced stage, it may be very considerable. Morand had an ovarian cyst which held ten pints, and he mentions§ that Dr. Duret, of Vitry-le-Français, reported to the Academy, in 1740, the history of a case of ovarian dropsy, in which the cyst held fifty pints: it had distended the abdomen so much that the woman was obliged to tie her petticoat four finger breadths below the axilla. In fine, according to Munro,‖ Wepfer, and other authors, the weight of the serum has been known to amount to one hundred and ten and to one hundred and twenty pounds.

Where the disease is already of old standing, both of the ovaries are generally found to be affected; but the disease, which began first upon one side, is always less forward, and the tumour smaller than on the side where the lesion first commenced. Under these circumstances, the belly appears to be uneven, lumpy, and, in many instances, divided into different and distinct lobes, just as happens where a scirrhous degeneration has taken place, or where the ovary is divided into several cysts. These multiple cysts, which are perhaps more common than single cysts, exhibit a great variety of character. Sometimes the tumour, which is susceptible of acquiring a very large size, is divided into two or three portions, unequally developed. Sometimes, on the other hand, the size of each sac is very small; but, as remarked by Messrs. Munro, Cruveilhier, Delpech, Strambio, Andral, &c., their slight development is generally compensated for by their great number, which is very considerable in some of the specimens. It should be added, that in these cases of multiple ovarian cysts, the front one is almost always the largest; that is to

* Morand (Mem. de l'Acad. de Méd., t. ii. p. 426) speaks of two empty cysts, one of which weighed fourteen, and the other twenty-seven pounds.

† The Morbid Anat. of the Uterus, pl. xx., 1832.

‡ Ratio Medendi, t. ii. p. 259.

§ Mem. de l' Acad. de Chirurg., t. ii. p. 457.

‖ Monro, Essay on Dropsy, p. 228; and J. I. Wepfer, Observ. Anat. ou Cadav., &c., 1658.

say, the most voluminous and heaviest cyst of the tumour is dragged in front of the others by its own weight.

The *causes* and the mode of development of ovarian dropsies are, as yet, but little known. Whether the disorder depends on the new formation of a cyst, created *de novo* within the ovary, under the influence of some inappreciable morbid state, or a cancerous state, as supposed by many writers, as Ledran, Delpech, (*loc. cit.*, p. 211,) and M. Cruveilhier, who compares the multi-locular cyst to the areolar cancer; or, whether the encysted tumour results from the accumulation of a serous fluid, in one or more ovarian vesicles, the first origin of the evil ought, in our opinion, to be always referred to a chronic inflammation. What is more certain, as to the etiology of ovarian dropsy, is this, viz., that it is never found to manifest itself, except at those periods of life during which the genital organs are possessed with their highest degree of activity, which is from the age of twenty years to forty-five years. It is proper to remark, however, that although the disease has been met with in girls not arrived at puberty, and in women beyond the *change of life*, such as have been the subjects of the sexual embrace, and particularly women who have borne children, are much more subject to the disease than virgins and women who have never conceived.

Among the *determining causes* of ovarian dropsy, have been classed all the causes we have mentioned as giving rise to ovaritis; such as external violence, a blow, a fall upon the hypogastric region; indeed, all the various abusive causes of irritation and excitement of the genital system, the chief of which is masturbation, and other indecent manœuvres, which females rarely confess to their physicians. However, it must be admitted that the disorder is often developed without any distinguishable provocation.

The *symptoms* of this affection are very obscure at first. As in the incipient stage of its existence, it causes very little inconvenience, and, moreover, is developed very slowly; the female who is attacked with it pays very little attention to it, and many of them attribute their feelings to an incipient pregnancy; a mistake the more easily made, since both the conditions are marked by the same symptoms. For example, the gradual enlargement of the abdomen, as well as of the breasts, the suppression of the menses, the vomiting, the disgust, the queer appetite, &c., as they may be met with in ovarian dropsy, as well as in pregnancy, may contribute to deceive the woman, and mislead, at the same time, the physician, who feels secure, even while under a great error.

Before the development of the tumour becomes sufficiently considerable to admit of its becoming sensible to the external touch, the woman feels a dull, deep-seated and permanent pain in one of the iliac regions, with a feeling of weight in the corresponding hip and thigh. The progress of the tumour is generally very slow; indeed, it sometimes requires several years to make it perceptible to the external touch; and such is the depth of the situation of the ovary, and so great is the thickness of the abdominal parietes, that it must have attained a considerable magnitude before it can be externally

felt. When it does become large enough, a tumour may be felt near one of the groins, which, provided it has contracted no adhesions with the adjacent parts, generally projects most on the side on which the patient lies. As this tumour may be globose, circumscribed, even, or lumpy, indolent or painful, it is often a difficult matter to decide whether it be a scirrhous, an extra-uterine pregnancy or an ovarian cyst. Though the fact of fluctuation in the tumour may be held to dissipate all doubt as to its nature, the absence of the fluctuation is not always to be taken as proving the negative, as the matter of the cyst may be thick or gelatinous; a mistake is so much the more easily made, inasmuch as a dropsy of the ovary often coincides with a scirrhous state of the same organ. It is, in fact, the frequent coincidence of these two affections, that has led different authors to imagine that the ovarian cyst is always complicated with a scirrhous state of the organ. In some of the cases, so slow is the progress of the disorder, that many years have elapsed before the tumour has acquired any considerable size. In these instances the women retain their fresh colour and their embonpoint for a long time, and appear to be in the enjoyment of all the attributes of a most perfect health; some of them, in whom only one ovary is affected, have been known to conceive and bear children with safety. It generally happens that as long as the cyst continues to be of inconsiderable size, and particularly where only one of the ovaries is affected, the functions of the pelvic viscera, such as the excretion of the urine and of the stool, and the mensual evacuation, continue to be performed with great regularity. On the other hand, when the encysted tumour begins to attain a certain magnitude, the viscera in proximity with it being displaced, and more or less inflamed by the pressure, contract adhesions with each other, as well as with the tumour itself. The painful dragging sensations felt by the patient upon any change of position, or on turning upon the side opposite to the diseased one, are the indiciæ of the morbid adhesions that bind the abdominal viscera together with the cyst. The womb may also suffer various sorts of displacements; sometimes it is found pressed over to the side of the pelvis; at others it is deeply depressed within the excavation by the weight of the tumour resting on the fundus uteri; the abdomen, which is most prominent on the side first affected, most generally allows us to detect the existence of a dropsical fluctuation, though the fluid may as yet occupy only a portion of the swelling.

Where the cyst has become large enough to push the bowels and the stomach upwards against the diaphragm, and thrusts the latter upwards into the confines of the thorax, the powers of digestion are interfered with, and the respiration is embarrassed. Obstinate constipation supervenes; the fluctuation in the abdomen becomes more evident, and the fluid, which now appears to occupy the whole capacity of the belly, often leads to a belief that the case is one of ascites. In certain instances the tumour, after having attained this great degree in its development, becomes stationary as to its progress. Sabatier dissected several subjects in which tumours of this sort had continued during a term of forty-five and even fifty years, without

any evident morbid influence on the general health of the individuals. Notwithstanding the abdomen was enormously large, their vital powers had been maintained, because the functions of their abdominal viscera had been executed without too much interference of the tumour. It must be said, however, that where the cyst is very large, the patient, as a general rule, is incapable of much motion, and the pressure it exerts on the viscera is sometimes so great that their functions are either entirely disordered, or more or less interrupted. Lastly, let us add, that a distressing dyspnœa, an imminent danger of suffocation, an ischuria renalis, painful and obstinate constipation, and in the end, a hectical form of fever, are, for the most part, the sad forerunners of the approaching dissolution of the patient.

The *diagnosis of dropsy of the ovary* is not always very easily settled, because the disorder exhibits certain general phenomena and local symptoms, that are more or less similar to those of simple pregnancy, of extra-uterine pregnancy, as was the case in a sample that fell under the notice of Merklin, of ascites, of hydrometra, &c.

It may be ascertained that the increased size of the abdomen is due to the dropsical state of the ovary and not to a state of pregnancy, by recollecting that in the case of an ovarian cyst, the tumour forms slowly, and commences at first on one side only, that it is circumscribed, often having an irregular shape, lumpy, and exhibiting certain harder points on its surface, and particularly near its base; that by means of auscultation, which, in such a case, is merely negative, that is to say, without any fœtal pulsations, or placental sounds, we most generally may discover gurgling sounds at different points of the tumour, which principally occupies one side of the abdomen; in fine, that the fluctuation ,which, in a majority of the cases, may be ascertained to exist, is confined within the boundaries of the tumour. By the vaginal touch the cervix uteri is found to be small and thin, while the os tincæ is a narrow, regular, transverse orifice, yet by pressing upon the hypogastrium, we do not cause it to move at all. Attention should also be paid to all the circumstances attending the progress of the abdominal swelling, nor should we forget that for the most part, the menses are suspended in dropsy of the ovary as they are in pregnancy, and that in either case, a woman may exhibit general or sympathetic phenomena having the closest analogy to each other. The age of the patient, a state of barrenness protracted through many years of the married life, the unmarried state of the woman, and her social position, may, when considered in conjunction with the other symptoms, lead to the rejection of the idea of pregnancy. It should also be remarked that the absence of the spontaneous motions of the child, and the persistence of the abdominal distension to a period beyond the term of utero-gestation, may assist in putting an end to all doubt as to the questions of normal pregnancy or extra-uterine pregnancy.

To distinguish betwixt an ovarian dropsy and a case of ascites, we should not forget that in the latter disease, the patient's constitution generally exhibits marks of languor and atony pervading the entire organism, such as excessive paleness, bloating of the face, infil-

tration of the lower limbs, and not unfrequently of the external genitals also. In ascites, the discharge of urine is generally diminished in quantity, while in case of an ovarian cyst, the amount of urine produced appears to be more considerable than is usual, especially where the tumour, by compressing the urinary bladder, gives rise to an uneasy sensation that excites the woman to more frequent efforts to discharge its contents. Nevertheless, it does sometimes happen that too strong a compression of the bladder of urine may, in ovarian dropsy, produce a complete incontinence, which constitutes one of the most distressing complications of the malady. In ascites, the swelling of the belly takes place more rapidly and in a more uniform manner, and the fluctuation is perceptible in every part of the tumour. In dropsy of the ovarium, on the contrary, it is dull and circumscribed, the shape of the abdomen is always less regular, its growth does not proceed in every dimension at one and the same time, and, lastly, the tumour which seems to come up from within the pelvis is always largest at the side on which it first made its appearance.

[I do not think that practice will always prove this diagnostic sign to be a dependable one, since the tumour, provided it have a long and very flexible pedicle, may, by the italic sigma of the colon, be pressed towards and kept on the right side, even though it may come from a depravation of the structure of the left ovary.—M.]

We add, that as dropsy of the ovarium is formed more slowly than the dropsy of an ascites, the patient is less incommoded by it in the early stages, and some of them preserve their embonpoint, and their healthy complexion for a long time, a circumstance which does not hold good as to ascites, which is generally accompanied with all the marks of a cachectic state, and of a general hydropic diathesis, and particularly with œdema of the lower extremities. The infiltration that is now and then observed as a consequence of ovarian dropsy, is generally confined to the thigh corresponding to the side affected, which may likewise be the seat of a feeling of numbness, arising from the pressure of the tumour upon the crural nerves and blood-vessels. The chief difference between ascites and ovarian dropsy is that the latter, like a hydrocele, is a purely local disorder.

Where a peritoneal dropsy exists at the same time with a dropsy of the ovary, we discover, by means of palpation, a stratum of fluid separating the abdominal walls from a tumour lying free within the peritoneal cavity. By moderate pressure we can generally succeed in pressing aside the serosity with the hand, and thus get down to the real tumour itself, and clearly appreciate its resistance, size and shape.

Where the abdominal walls, from being distended both by an encysted ovarium and a peritoneal dropsy, have yielded as far as their natural elasticity will admit of, it occasionally happens that a portion of the ovaric tumour forms a hernial protrusion. Dr. Huguier, upon the autopsy of a female who died in 1830, at the Hospital St.

Louis, of an ovarian dropsy, complicated with ascites, found a cyst of the ovary larger than a man's head, presenting the following appearances: the tumour was multilobular and divided into four portions; the first, internal and inferior, filled up the pelvic excavation; the second, anterior and internal, occupied the corresponding part of the abdomen; the third, superior and external, whose summit touched the under surface of the right lobe of the liver, had detached the peritoneum from the whole of the right costo-iliac region, and the inferior part of the anterior paries of the abdomen, and engaged itself within the crural canal, not only its internal portion where the lymphatic vessels pass and where hernias are formed, but even throughout the whole length of the canal, following the aponeurotic expansion furnished to the thigh by the fascia iliaca. This portion of the tumour, which contained nothing but serum, was three inches long by two inches in breadth, and situated behind and outside of the crural vessels. It is only necessary to know that a crural hernia of an ovarian cyst is a possible case, in order to avoid the errors of diagnosis that such a displacement might give rise to. Lastly, we remark that the general symptoms and sympathetic and hysterical phenomena that accompany most of the maladies of the womb and ovaries, ought, likewise, to aid us in discriminating betwixt an ovarian dropsy and the other serous collections of the abdominal cavity.

The prognosis of the disease under consideration is always unfavourable, especially when complicated with scirrhus of the ovarium, with ascites, a general dropsy, or hydrothorax. Notwithstanding some women have been found to attain an advanced age, though long afflicted with dropsy of the ovary, they almost all fall victims to the progress of their malady, either from a rupture of the cyst, whose fluid is effused into the cavity of the belly, giving rise to a mortal peritonitis, or from the disorders and disturbances produced by the pressure of the tumour upon the abdominal viscera, or, finally, from the accidents which very frequently result from the operations required in order to evacuate the fluid or remove the diseased organ. It sometimes happens that the rupture of the tumour is favourable to the patients, because the serous fluid has been discharged into the cavity of some neighbouring viscus which has been perforated simultaneously with the cyst; Denman* saw it escape by the rectum; Madame Boivin,† by the vagina, in two cases; Monro,‡ once, by the same route, and again, through the groin; and Mead and Locock§ through the umbilicus.‖ Denman's patient, one of Madame Boivin's, and the one of which Mead speaks, were entirely cured; the others relapsed, and death occurred some time after. Sometimes, after rupture of the cyst, the effusion into the abdominal cavity has been

* Med. and Physic. Journal, vol. ii. p. 20.

† Recherches sur l'avortement, etc., pp. 103, 131.

‡ Edinburgh Essays, vol. vi. p. 387.

§ Illustrations, etc. of the Principal Diseases of the Ovaria, p. 53.

‖ Doctor Grenville (Med. Physic. Journ., 1822), has published a case of encysted tumours of the right ovarium, some of which, as large as the head of a fœtus, opened and gave issue to purulent matters through an ulceration in the walls of the abdomen.

reabsorbed, and a complete cure effected. Doctor Seymour (loc. cit., p. 55,) quotes from Blundell, a case in which absorption took place, after effusion into the abdomen, though the rupture of the ovarian cyst had been occasioned by a fall. We shall conclude our remarks upon the prognosis of dropsy of the ovarium, by adding that the disease ought to be ranked amongst those whose progress may sometimes be retarded, but whose complete cure can rarely be obtained. It is wrong, however, to pronounce an unfavourable prognosis too soon; for Portal,* Petit Radel,† M. Nauche,‡ Seymour (loc. cit., pp. 93, 116 and 119,) and several other practitioners, cite several cases of cure obtained by various means, which we shall point out.

The *treatment of dropsy* of the ovarium is far from having been determined with precision; for whatever be the therapeutical methods that have been employed, the examples of failure are infinitely more numerous than those of success. Thus purgatives; emetics; sudorifics; diuretics; sialagogues; simple, salt, and sulphurous baths; percussion and compression of the abdomen; revellents and resolvents, both internal and external; puncture; incision and extirpation of the tumour, and a crowd of empirical remedies, have been, turn by turn, employed, and all followed by rare and isolated cases of cure.

Though we ought not to place much confidence in the means derived from medicine strictly so called, we are of opinion that they ought always to be employed before recurring to those afforded as by surgery. Consequently, sudorifics ought first to be prescribed, for example, guaiac, sarsaparilla, and vapour-baths; resolvents, among others mercurial frictions, successfully employed by Clarke and M. Nauche; those of hydriodate of potash with the internal use of iodine in small doses; sea-bathing, or salt-water baths, from which M. Laennec, of Nantes, says he has obtained most excellent effects; the thermal baths of Aix, in Savoy, or of Barêge; antimonial frictions, cauteries, moxas, and blisters applied upon the abdomen. Diuretics, such as squills, nitre, etc., which, according to Haller,§ were usefully employed by Willis; a decoction made from ashes in the proportion of a handful to a quart of water, which Petit Radel (loc. cit.,) employed, and from which he obtained a cure, after having punctured the ovarian cyst; lastly, purgatives in divided doses; for instance, aloes, rhubarb, croton oil, calomel combined with Castile soap, and sulphate of potash, etc., are other means which, in conjunction with abstinence and compression of the abdomen, may be prescribed at the commencement of the disease, for the purpose of assisting the absorption of the fluids at first small in quantity.

When the cause of the disease can be discerned, we must endeavour to remove it as early as possible. If it have occurred after a blow, a fall or some engorgement resulting from inflammation, we should resort to the use of baths and to general and local bleedings, especially if the woman be of strong constitution. Should the dis-

* Observat. sur la nature et le traitement de l'hydropisie, t. i. p. 15.
† Encyclopédie méthodique, chirurgic., t. ii. p. 134.
‡ Maladies des femmes, t. i. p. 174.
§ Disputationes Morborum, vol. iv.

ease have followed suppression of the menses or of a hæmorrhoidal flux, appropriate means for restoring these discharges ought to be directed. Lastly, when ovarian dropsy has followed the disappearance of a cutaneous eruption, of gout or rheumatism, etc., the irritation must be restored as soon as possible to the place it primarily occupied, and then remedies proper for the treatment of these different diseases should be resorted to.

When these various therapeutical means fail, which, unfortunately, is generally the case, we may resort to the operation of tapping, in order to remove the fluid contained in the cyst. This operation, which is rather a palliative than a curative means, is recommended by Theden, Ledran, Monro, Richard Brown, Chester, Camper, Howship, S. Cooper, and several other surgeons; it is regarded, on the contrary, as being more injurious than useful, and as hastening, sometimes, the death of the patient, by Callisen, Denman, Garengeot, Burns, G. Hunter, Richter, Sabatier, Delpech, etc.; some of these writers, though they do not positively forbid tapping, think with good reason, that it ought not to be resorted to except as an extreme measure, and when the life of the patient, exposed to constant danger, has become insupportable in consequence of the inconveniences and sufferings which result from the enormous distension of the ovarian cyst.

This operation, of which Ledran, Monro, Dehaen, Portal and Dr. Hey, have published cases that have either terminated successfully or prolonged, for a long period,* the lives of the patients, has, most generally, been followed by rapidly fatal accidents,—a statement supported by the cases reported by Johnson, Cleghorn, Denman, Scudamore, Ford, Lizars, Dupuytren, Delpech, Seymour, Madame Boivin, and several other practitioners whom it would be useless to cite.

Though tapping is sometimes successful, or, at least, renders life more bearable, it ought never to be decided upon hastily; whether because the uterus or intestines, etc., may be wounded, examples of which we could cite; because it may determine rapidly fatal inflammations and hæmorrhages; or, because it may occasion a debility which increases so rapidly as to carry off the patient in a few days; or, finally, for the reason that it fails in lessening the size of the abdomen when the dropsy is formed of several small cysts, or when the substance of the tumour is gelatinous and too consistent to escape externally. There is still another reason which ought to deter prac-

* In a case of dropsy, supposed by J. Latham to be seated in the ovary, tapping was performed one hundred and fifty-five times, and five thousand seven hundred and twenty pints of fluid evacuated, and, in this way, the life of the woman was prolonged for several years. (Philosoph. Transact., vol. lxix. part i. p. 54, 1779.) In the same collection, vol. lxxiv. part ii. p. 471, year 1784, is the history of a case of dropsy of the ovarium, communicated by Ph. Meadon, Martineau and John Hunter, which is remarkable for the number of times that tapping was performed, and especially for the quantity of fluid evacuated. The patient underwent eighty operations, in the space of twenty-six years, and furnished six thousand six hundred and thirty-one pints of fluid. In the second volume of the Medical Communications, it may be seen that Ford tapped the ovary forty-one times, at very close intervals, because the collection formed with constantly increasing rapidity. These operations furnished two thousand six hundred and eighty-six pints of serous fluid.

titioners from performing paracentesis of the ovarium, except in the last extremity; which is, that the good which results from it is almost always ephemeral, and that the collection reappears after each operation, with a constantly increasing rapidity.

When compelled to resort to tapping, it should be performed in the following manner: first, after arranging the woman so that the tumour becomes as salient as possible, we must search for the point where fluctuation is most marked, and where the cyst seems to be thinnest, and then the trocar must be introduced obliquely towards the side in which is the diseased ovary, so as to avoid wounding the uterus.

For the purpose of obtaining a radical cure, by inducing sudden inflammation of the cyst, as for the cure of hydrocele, injections have been recommended; but this method was not followed by the success looked for. Scudamore's patient, referred to by Lizars,* treated by port-wine injections, died some weeks after the operation. M. Ramsden,† surgeon to St. Bartholomew's Hospital in London, who had injected the same kind of wine, mixed with water, in two similar cases, saw his two patients perish from the effects of the inflammation; the woman, mentioned by Denman, died at the end of six days; lastly, vinous injections, employed on a single occasion, under the same circumstances, by Dr. Martini,‡ of Lubeck, were not followed by any appreciable result.

With a view slowly and gradually to inflame the parietes of the cyst, reduced to a small volume, it has been attempted to convert the wound into a fistula, by means of a sound or tent retained permanently in place. This method succeeded with Dehaen, (*Ratio Medendi*, t. ii. p. 255,) in a case in which the state of gestation and the more or less considerable size of the womb, kept the pouch, which had been emptied by the tapping, constantly compressed. Portal also relates a successful case, treated by the same method; lastly, M. Seymour (*loc. cit.*, p. 103) says that of three patients treated in this way by Dr. Key, only one recovered, while the other two died, soon after, of acute inflammation and profuse suppuration.

When often repeated tappings, or the permanent retention of a catheter in the wound, give reason to fear the development of too acute an inflammation, and also when the tumour contains matter of a gelatinous consistence, Ledran§ proposed treating the disease by incision, in the way Delaporte‖ practised it. The latter surgeon, by means of an incision four or five inches in length, succeeded in extracting, from an ovarian tumour, sixty-seven pounds weight of a thick and gelatiniform matter; the patient dying thirteen days after, other cysts were found filled with the same substance, a portion of which had escaped into the abdomen through certain ulcerations in the principal cyst. The two cases, given by Ledran, are such as to give

* Edinburgh Medical and Surgical Journal, No. 81.
† Cooper's Surgical Dictionary, vol. ii. p. 255.
‡ Journal Hebdom. de Méd., t. ii. 1829.
§ Mémoires de l'Acad. de Chirurgie, t. xi. pp. 431 and 442.
‖ Idem. (loc. citato,) p. 452.

greater encouragement to such attempts; for, in one of the patients operated upon, the wound remained fistulous, and, in spite of a second incision, rendered necessary by an abscess in the hypogastrium and a scirrhous affection of the ovary which daily augmented in size and complicated the dropsy of the organ, death was deferred for several years, during which time the patient enjoyed tolerable health. In the second patient, operated upon by the same surgeon, the cure was radical, although a number of accidents occurred; among others, a suppuration, at first abundant and fetid, but which, after diminishing, continued to discharge, through a fistulous opening, for two years. Notwithstanding the cases just mentioned, and the complete success obtained in some similar to that of Delaporte, by Dr. Houston, quoted by Monro, (loc. cit., p. 225,) and by Portal, Denman, and MM. Hay and Ramsden, we agree with Richter,* that the laying open of the cyst of the ovary generally hastens the death of the patient by the induction of very extensive inflammation, and that, where the consequences are not immediately fatal, almost all the patients perish, before long, from subacute peritonitis or hectic fever.

As neither single nor multiple tapping, nor incision, promises advantage, when ovarian dropsy is complicated with scirrhous degeneration, or when the tumour is multi-locular, and divided into a larger or smaller number of cysts, several practitioners, among others Felix Plater,† Diemerbroeck,‡ Power and Darwin.§, Vanderhaar, quoted by Logger, (*de ovariorum morbis*, p. 76,) Delaporte and Morand, (*loc. cit.*,) Siebold, Lizars, (*loc. cit*,) etc., have recommended the extirpation of the whole of the diseased organ, as is done almost with impunity in the females of various animals, for the purpose of rendering them sterile.

Notwithstanding these cases, and although the loss of both or a single ovary has happened in women, without fatal results, either after operations performed for ends not medical,‖ or after a wound, instances of which are cited by Franck of Francknau, Poot, by Lassus and by M. Deneux, the methodical extirpation has been rejected, in all cases, by Dehaen, (*loc. cit.*, t. ii. p. 88.) by Morgagni, (*epist.* 38,) by Sabatier, by Gardien, by M. Murat and several other distinguished surgeons. This method, which, in the opinion of the writers, ought to be erased from the list of useful operations, is, to a certain degree,

* Anfrangs gruende der Wundarzneykunst, th. v. p. 128.

† De Mulier. part. generat. dicatis., 1597.

‡ Anat. corporis humani, 1679.

§ Zoonomia.

‖ Isbrand de Diemerbroeck, (Opera omnia anat. loc. cit.,) relates that Adromètes, according to Athenæus, and Gyges, King of Lydia, according to Suidas, often caused the ovaries to be extirpated in women of their kingdoms, for the purpose of making them barren. According to some authors, this custom, as barbarous as it is immoral, prevailed among the Egyptians and some other of the eastern nations also.

Jean Wier, who died in 1588, says (Med. obs. rarior) that a sow-gelder, suspecting the virtue of his daughter, opened her abdomen, drew out the uterus, and cut off the ovaries. The author adds that this cruel operation was followed by complete success.

justified by several cases of cure, obtained by Lemaunier,* by Paroisse, and by Dr. Smith,† as well as by the three cases of Dr. Macdowell, related by Lizars, (*loc. cit.*,) by the extirpation of the ovarium, successfully performed by the last-named surgeon, and another time by Dr. Chrysmer, (*Archives de Med.*, t. xx.) Finally, it is justified, in part at least, by the cases communicated by Delaporte, Lieutaud and Kapser, and by the more or less successful attempts of Lemman, Delpech, Nathan, MM. Lafflize, of Nantes, Ischier, Dzondi, Halles, and of some others.

We ought to state, moreover, that though the operation has sometimes been crowned with success, it has more frequently been followed by unfavourable results. One of the four women operated upon by Lizars, survived only fifty-four hours. A patient of Dr. Martini's (*Arch. de Méd.*, t. xx.,) and two others, operated upon by Dr. Chrysmer, also died a few hours afterwards. We will add, moreover, that the operation has had to be abandoned, in different cases, after the incision of the abdominal parietes, by a surgeon of whom Sir A. Cooper‡ speaks, as well as by MM. Lizars, Grenville, (*loc. cit.*,) Dieffenbach, (*Arch. de Méd.*, t. xx.,) and by Galenzowski, of Wilna. When the cyst was exposed to view, these able practitioners deemed it imprudent to extirpate it, either because of numerous adhesions that had been formed, or because of the great number of large vessels which it would have been necessary to divide.

We conclude, from the cases that we have just related, that the extirpation of the dropsical ovarium is an operation which may present great difficulty and always the greatest dangers. Without wishing to proscribe it entirely, we are of opinion that it ought not to be resorted to except as an extreme resource, and only where the mobility of the tumour gives a certainty, in some sort, that it has not contracted adhesions, or that they are at least of small extent. A very large cyst, the least uncertainty in the diagnosis,§ a complication with ascites and different indurations, are circumstances which contra-indicate the operation. We will add, that it ought not to be attempted, even under the most favourable circumstances, unless the patient earnestly desire it.

If we determine that the operation offers the only chance of safety, the tumour ought to be exposed, by an incision in the most suitable point of the abdomen, by an incision parallel to the axis of the body, and of as small extent as possible; that is to say, from three to five or six inches; then, if the cyst were adherent, it would be necessary to endeavour, after the example of Dr. N. Smith, to empty it with the trocar, and afterwards remove it, taking care to destroy the adhesions, either with the fingers and handle of the scalpel, or by a

* Mém. de la Société Royale de Méd., 1782, p. 296.

† Edinb. Med. and Surg. Journal, No. 72, 1822.

‡ Dict. of Pract. Surgery, by S. Cooper, vol. xi. p. 256.

§ The diagnosis is sometimes so uncertain that M. Lizars (Edinb. Med. Journal, No. 81) acknowledges, with a candour above all praise, that he mistook a swelling of the abdomen, resulting from obesity, for a dropsy of the ovary, and that he did not perceive his mistake until after he had made an extensive incision in the abdominal parietes.

careful dissection, should these means prove insufficient. Either ligature or torsion of the vessels ought likewise to be performed, as they are divided. Should the cyst be free, movable and isolated, and have a narrow pedicle, it is sufficient to tie its root firmly and divide it beyond the ligature, with a bistoury, or with long scissors, curved on their flat surfaces. In case the tumour were fungous, and had a large base, with numerous vessels of a large size, it would be better not to touch it, but to close the wound, as was done by MM. Lizars, Grenville and Dieffenbach. It is well to add, that the edges of the wound ought to be held together by adhesive strips or with the suture, when the division is very extensive.

We shall conclude by saying, that since ovarian tumours are rarely composed of a single cyst, since they are often, on the contrary, multilobed, and adherent at several points ; as they contain, in the greater number of cases, something more than serosity, and as, moreover, the dropsy, which almost always ends with attacking both ovaries, is not unfrequently complicated with other lesions which render the diagnosis more obscure and the prognosis more unfavourable, we are tempted to say, with the celebrated Hunter, (*Medical Observ. and Inquiries*, vol. ii.,) that the patients would often be more likely to prolong their existence, if no attempt were made to deliver them of their disease.

Dropsy of the Fallopian tubes, being dependent upon the same causes and presenting the same symptoms as that of the ovaries, with which it is almost always complicated, and from which it cannot be distinguished until after death, we shall be content with saying that medical treatment is the same, and that, though tapping has seemed, in some cases, to palliate the disease and prolong the lives of the patients, it has generally been very soon followed by death. We remark, that the matter they contain is often thick and gelatinous, and that, like the ovaries and uterus, they are sometimes distended by hydatids, and may acquire an enormous size. Dehaen (*loc. cit.*, t. iii. p. 29) speaks of an enlarged Fallopian tube, which weighed seven pounds, and contained twenty-three pounds of fluid. Frank (*de cur. ret.*, lib. vi. p. 130) saw one which contained thirty-two pounds of serous and gelatinous matter. Finally, Blancard (*anat. prat. rat.*) met with a tube distended by one hundred and twelve pounds of serosity. It is true, that the ovary and broad ligament likewise formed part of the same cyst. In women who die of this disease, the tubes are tortuous, thickened, elongated, having the appearance of the large intestines, and being larger in proportion as they approximate to the ovary. Sometimes they enlarge suddenly, and are pyriform or spheroidal in shape.

## OF CANCER OF THE OVARIUM AND OTHER DEGENERATIONS OF THAT ORGAN.

The ovarium, like the uterus, may exhibit various morbid growths and degenerations, upon which we shall say but a few words, because any circumstantial details that we might give, would be, in

some sort, a mere repetition of what we have said in the preceding chapters.

Amongst the transformations of the ovaries ought to be ranked the *fibrous transformation*, which bears so strong an analogy to that of the uterus that it is often impossible to determine the true seat of the tumour, not only during the life of the patient, but even with the anatomical specimens before the eyes. These fibrous productions, which not unfrequently co-exist with those of the uterus, and which, like those of that viscus, may be developed either at the surface, or within the proper tissue of the organ, vary prodigiously in size and weight, since they have been known to weigh from a drachm to more than forty pounds. M. Cruveilhier* lately found, in a woman who died at the Salpetrière Hospital, a tumour of the ovary, weighing forty-six pounds. We ought to state, also, that this organ may, like the uterus, become the seat of cartilaginous,† osseous,‡ petrous,§ tubercular‖ and melanic¶ transformations, which can be recognized only by autopsical examination.

Of all the degenerations of the ovary, the cancerous is, beyond all contradiction, the most important to study, because of the frequency of its unfortunate results, and of the terrible pain it almost always occasions. Cancer of the ovary may, like that of the womb, present itself in every form, which are often combined together or with other alterations. Nevertheless, scirrhous and encephaloid cancer, which are always rather hard to distinguish from each other even after death, have been more frequently observed than the other varieties that we pointed out while treating of this disease when situated in the uterus.

Cancerous ovaria sometimes attain a very large size, and, in that case, alter all the relations of the surrounding parts to each other. Morgagni speaks of a cancerous ovary which weighed twenty-four pounds. M. Velter saw one weighing fifty-six pounds, and M. Caillot another of the same weight.

The *causes* of cancer of the ovary are but little known; every thing, however, tends to make us suppose that the degeneration has the same origin as chronic ovaritis, of which it is often the termination. All that we can say positively is, that cancer of the ovary is met with at least as frequently as that of the breasts, and that it yields in frequency only to that of the uterus, with which it coincides sometimes consecutively.

The *symptoms* of the disease are very obscure in the early stage of its existence; later, when the increase of the tumour might lead to the suspicion of a cancer of the ovary, it is difficult to distinguish

* Dictionnaire de médecine et de chirurg. prat., t. xii. p. 414.

† Kluisken, Annales de littér, étrang., t. ix. p. 336. Dupuytren, Bulletin de la Faculté de Méd., No. 3, 1806. Caillot, Académie de Méd., Jan. 13th, 1824. Velter, idem, July 12, 1825.

‡ Logger, De ovarior. morb., p. 12. Seymour, loc. cit., p. 56.

§ Haller, Disput. ad morb., t. iv. p. 420, (d'après, Schleuker.) Saviard, Nouv. recueil d'observ., 1702.

‖ Seymour, loc. cit. Tonnelé, Journal hebdom. de méd., t. v. 1829.

¶ Morgagni, de sedibus et caus. morb. epist., 21, 22, 31, 39.

it from the other vital lesions of which we have just spoken; in proportion as the disease advances, the pain, which is felt in one of the sides of the pelvis, and which was dull and not continued at first, becomes more acute, and assumes more and more the character of that belonging to the cancerous degeneration.

When the disease appears in the scirrhous form, the tumour grows slowly, and it has sometimes been known to augment insensibly for ten and even thirty years, without giving rise to any marked derangement of the functions, or to very acute pain; often, the only inconveniences which the patient experiences are sensation of uneasiness, proportioned to the weight and development of the scirrhus, and some disorders of the menstruation, which, moreover, are far from being always present. Encephaloid cancer, on the contrary, grows with rapidity, may become enormous in a few months, and cause the lancinating pains characteristic of the degeneration. When the disease approaches a fatal termination, the tumour, which becomes irregular, and more and more enlarged, softens in certain points: the shooting pain, which has been compared to the pricking of needles, becomes more and more severe, and extends to the neighbouring parts, to the uterus, vulva, loins and thigh corresponding to the diseased side; hæmorrhages, discharges of an ichorous character and disgusting odour, escape from the vagina, which, by extension of the degeneration, often produces fungous vegetations, of a granulated and livid reddish appearance. The pains extend sympathetically to the knees, the legs, the breast and the shoulders; the stomach, particularly, is affected; the digestion is imperfectly performed; the patient, who acquires an extreme disgust for food, is also troubled with nausea and vomiting, together with obstinate constipation of the bowels; lastly, a state of insomnia, amounting to almost absolute sleeplessness, a permanent condition of hystericism, rapid emaciation, and continual fever, are harbingers of her approaching end, the inevitable result of this scene of pain.

The *diagnosis* of cancer of the ovary, while in the state of scirrhus properly so called, is always difficult, especially in the early stages of the attack; but where the disorder is more acute, the hardness of the tumour, the absence of any fluctuation, and lastly, the lancinating pains, sufficiently distinguish it from encysted dropsy, from fibrous tumour of the uterus, and from extra-uterine pregnancy; we may also avoid confounding the symptoms with those of great masses of fæces accumulated in the cæcum, or colon, by remembering that tumours produced by the causes last mentioned appear and disappear, and change their situation, according to the posture of the patient; besides, the Touch per vaginam, and the origin and antecedents of the disorder largely contribute to the dissipation of every doubt.

The *prognosis*, although always serious, differs according to the form of the cancer, the volume of the tumour, and the complications of the disease. Encephaloid degeneration is the most serious of all, and the one whose termination is most speedily fatal. But, with regard to the ovary, we make the same remarks as with regard to the uterus; that is to say, according to the order of gravity in these

varieties, the first to be named is the encephaloid cancer, the one most frequently met with in dissection, next the hæmatode or blood-cancer, which has been thrice noticed by Hooper,* the fungous cancer, of which Professor Proschaska has given a description, accompanied by a drawing, (*Disc. organismi corpor. human.*, plate v,) and lastly, the scirrho-cancer, which is the first stage of the other kinds, and the least unfavourable as regards its diagnosis, for we may often succeed in arresting its growth. We may add, that it frequently co-exists with encysted dropsy of the ovarium, with which it makes a distressing complication, or of which it may be either the effect or the cause.

The treatment of the degeneration under consideration, ought to be merely palliative; for, in spite of the pretended cures published by certain authors, the disease is beyond the resources of medical therapeutics. Small venesections, prolonged bathing, narcotics, demulcent and cooling drinks, emollient and anodyne enemata, gentle laxatives, a mild regimen, principally vegetable,—such are the measures, by the prescription of which we may succeed in moderating the violence of the symptoms, and retarding the progress of the malady. Where the menses are suppressed, which is often the case, we should endeavour to recall them, or supply the want of them by applying leeches to the vulva or anus, in small numbers at each time; or we might equally well establish issues, and give orders for douches of sulphurous or alkaline solutions; mercurial frictions made upon the tumour, and the internal use of cicuta, and the other so-called anti-scirrhous articles mentioned in our remarks upon cancer of the womb, should be turn by turn attempted, with a view not to cure, but to console the patient. Where the scirrhous tumour has become softened, and taken on the encephaloid character, or any other of the cancerous transformations, the treatment, which ought to be varied according to the nature of the symptoms, should consist of cares accessary and subordinate to the precise kind of inconvenience suffered by the sick person. We further add, that, in this disease, as well as in dropsy of the ovarium, the extirpation of the organ has been proposed, and which, as we have seen in the preceding chapter, has been sometimes crowned with success. We think, however, that the results, as yet obtained, are not sufficient always to justify so grave an operation, and that too much blame could not be cast upon any attempt of the kind in a patient exhibiting the signs of the cancerous diathesis, a degeneration of the same sort affecting any other organ, or, in fine, an hereditary disposition to cancer.

Although the Fallopian tubes are subject to the same diseases as the ovaries, we shall not treat of them here, as any details we might give would be of no avail in enlightening the practitioner as to the treatment, and would be interesting only in a treatise on pathological anatomy, for the different lesions of the tubes can only be determined upon the dead and not upon the living body, and since, also, they almost always coincide with the diseases of the ovarium.

* The Morb. Anat. of the human uterus, pl. xxi.

## CANCER OF THE VAGINA AND EXTERNAL ORGANS OF GENERATION.

Cancer of the vagina may be either a primary disorder, or a mere extension of cancer uteri, or of the same malady, situated in the external genitals. When primary, it may arise from the simple degeneration of an eroded point, a simple or syphilitic ulcer, a neglected or ill-treated cancerous excrescence, or from ulceration of a scirrhous induration situated in the lining membrane, or in the proper texture of the vaginal parietes. Primary cancer of the vagina is a somewhat less serious affection than cancer of the womb, especially when it is situated near the orifice of the vulva. A cancer, consecutive of one of the womb, is far more serious, for it is a complication and an extension of the primary malady, whose fatal result is greatly accelerated by it.

Cancer of the clitoris generally commences like cancer of the penis at the glans. Whatever be the form under which it attacks, it may depend upon an irritation proceeding from syphilitic ulcers, from solitary erotic excesses, from frequent and prolonged frictions and excitation. Under the influence of one or more of these causes, the clitoris has been found to grow to the size of the thumb, and sometimes to give rise to a pediculated fungous tumour of the size of the fist, presenting a softish mass of a whitish livid or reddish colour, covered with bunches of granulations secreting an ichorous fluid.

Cancer of the meatus urinarius, like cancer of the nymphæ, almost invariably arises from degenerated ulcerations, whether of a simple or syphilitic nature, irritated by the permanent contact of the urine, or by improper dressings. The same may be stated as to cancer of the labia pudendi, whose vascular tissue is very irritable, and exhibits, in a high degree, a structure favourable to the development of the cancerous ulceration. The vaginal discharges and the frictions from walking, or frequent coïtus, may likewise contribute much to the production of cancer of the labia, and the other organs appertaining to the vulva. We add, that the carcinomatous affections of these parts, like those of the vagina, may also be the disastrous consequences of the gradual spread of the same vice from a primary development of it in the womb. It is well, too, to remember, that the inverse of this proposition may hold good, that is, that the disease may extend from the vulva along the vagina, and thence to the womb itself.

As there is generally some uncertainty as to the nature of the disorder, it is always well to begin the treatment by the use of mercurials, both locally and internally exhibited, and that conjointly with antiphlogistics, and especially topical bleeding, and emollient and narcotic fomentations. Should the symptoms, instead of ameliorating, become exasperated, it might be deemed necessary, in order more certainly to arrest the progress of the evil, to resort to certain surgical operations which we are about to describe. Where the disorder is confined to the vagina, we are restrained to the use of a mere palliative treatment; should it, however, be found to be superficial, and should it appear possible to destroy all the parts affected, recourse might be had to cauterizations, with the liquid acid-nitrate of mer-

cury, or even with the arsenical paste. Should the mischief, however, not extend beyond the orifice of the meatus urinæ, the whole of that point might be removed with the bistoury. The canal of the urethra, be it observed, cicatrizes very readily, and continues to perform its functions, even where it has been curtailed of several lines of its length. The operation is performed with a pair of pincers, and a scissors curved on the flat, which serve equally well for the incision of the clitoris and of the nymphæ. To the bleeding that follows these several operations, the usual hæmostatic remedies are directed, but especially the actual cautery, which possesses the additional value of being useful for the utter eradication of the last vestiges of the disease; should the disease reappear, it should be again attacked either with the knife, the red-hot iron, the nitrate of silver, or the liquid acid-nitrate of mercury.

The treatment of cancer of the labia is likewise wholly chirurgical, that is to say, it consists in the extirpation of the parts affected. The operation is in general neither tedious nor difficult, and when the case requires it, we may venture to remove almost the whole of the external genitals, for experience has proven that few very serious inconveniences, and but very little disturbance of the functions, are the consequences of the operation. The hæmorrhage ought especially to attract our attention; for, as the blood oozes from almost every part of the wounded surface, we are often obliged to arrest it by means of the incandescent iron. In cases where the cautery might not appear to be indispensable, and with a view to obviate the attack of a secondary hæmorrhage, pressure might be made on the bleeding surfaces with small balls of charpie sprinkled with resin or ashes, and covered with several discs of agaric, sustained by compresses and a T bandage. We ought to observe, that previously to commencing the dressing, it is important to introduce and secure a catheter in the bladder, so as to allow a free passage to the urine, and keep the dressings from becoming soaked with it. Care should also be taken to plug up the orifice of the womb with charpie, to hinder any blood that might still continue to flow, from getting within, and remaining within the canal of the vagina. It is hardly requisite to remark, that for the performance of these operations, the woman must be placed in the same manner as for the application of the speculum.

## OF ŒDEMA, VARIX, AND OTHER TUMOURS OF THE VULVA.

Œdema of the labia is generally the extension of anasarca proceeding from ascitic dropsy, or from the state of pregnancy. Sometimes it accompanies a local inflammation, especially an erysipelas, but it then becomes a more serious matter than the œdematous engorgement from the other causes we have mentioned.

Œdema of the vulva is known by a certain swelling of the labia externa, which becomes tense, shining, of a rose colour, transparent, very little sensitive to pressure, and retaining the impression made by the fingers when pressed upon the surface.

This œdematous engorgement of the labia majora looks like a thick and protuberant cushion, which may become so very large as to interfere with the act of walking, become an obstacle to that of parturition, and also prevent the proper exercise of the *Touch* per vaginam, by hindering the point of the finger from penetrating as far as the os tincæ.

The surgical treatment of œdema of the labia consists in a steady compression of the parts; but when the swelling is very great, we should attempt to discharge the fluid by means of small, shallow punctures made with the point of a lancet. An inflammatory œdema accompanied with fever, demands the use of antiphlogistics, such as venesection, the application of leeches to the inside of the thighs, and not to the diseased parts; cooling drinks, emollient, narcotic and slightly resolvent applications; and, lastly, dieting, and rest in a horizontal posture; such are the remedies.

Varices of the labia constitute a rather rare affection, which differs from all other tumours of the vulva by the following characters: the dilated veins form beneath the skin on one side, and the mucous membrane on the opposite side of the labium, certain nodosities or lumps, which are more or less protuberant as they are of an older or fresher date. The tumours are indolent upon pressure, of a bluish colour, and a consistence so soft that they disappear under pressure, to reappear again as soon as the pressure is taken off. In some cases these tumours become irritated, and then they inflame, when they become the seats of fungous ulcers difficult to heal. It should be also stated that what renders the disorder in some instances quite distressing, is the pruritus of the sexual parts with which it is accompanied.

The principal causes of varix are too frequent coïtus, and particularly the violent frictions that may attend it; pregnancy, too often repeated; laborious labours, and the repeated and prolonged irritations they give rise to. These circumstances are especially favourable to the development of the disease in females in whom the veins are of a large size, dilatable, and with coats that have but little resisting power.

The treatment of varix of the vulva is very simple; the disorder often disappears spontaneously upon the cause that produced it ceasing to act. When the labia are indolent, recourse is mostly had, and with advantage, to cold and astringent topical remedies, such as compresses moistened with liquid acetate of lead, a decoction of tan, or Provence roses, or a weak solution of sulphate of alumina in a mixture of water and claret. To these remedial measures should be added an entire abstinence from the coïtus, and a steadily maintained compression of the parts, where that can be effected without too great a degree of inconvenience. Cases of painful and irritative varix should be managed by means of rest, opiated cerates, topical bleedings, and, lastly, by using the chloruret of the oxide of sodium as a lotion where the varicose tumours have become the seats of ulceration.

Encysted tumours of the labia are of sufficiently frequent occur-

rence, and are easily distinguishable from all other tumours of the labia pudendi, by their rounded and circumscribed form; they occasion no alteration in the colour of the skin; their consistence is somewhat fluctuating, and their substance, which is neither pasty nor translucent, nor diffused, as in œdema, does not show the hardness and the resistance of the fibrous tumours with which it is not difficult to confound them. Besides, a mistake in the diagnosis is of no very great moment, since the extirpation of the tumour is equally applicable to both cases.

Encysted tumours of the vulva exhibit a resistance to the touch that differs, according to the nature of the material contained within them; though the cyst, whose parietes are smooth, and of a whitish colour, is mostly distended with a serous fluid, its cavity is in some specimens found to be filled with a thick brown liquid. Cases are seen of a spontaneous opening of this kind of tumour, which gives rise to an inconvenient and constant oozing, which rarely dries up without the assistance of art.

The treatment of encysted tumours of the labia majora, like that of the fibrous tumours, consists, as we have already said, solely in their extirpation, which is performed as follows: after placing the patient in a proper posture, we seize the labium and turn it over outwards, then fixing the tumour firmly by a finger behind it so as to make it project more, a small incision should be made on the inner surface, whether because the cyst or fibrous tumour is nearer to the surface at that point, or because it is desirable to avoid making a disagreeable scar. When the tumour is fairly uncovered, the surgeon should endeavour to detach it from all its connections by a minute dissection, and pressing his finger behind it still more strongly so as to make it project, he will remove it as completely as possible with the scissors. Should the cyst happen to be laid open during the operation, it is proper to remove every part of it that can be reached, and then cauterize the whole internal surface of the wound with a view to prevent the reproduction of the disease. In case of profuse hæmorrhage, it might be treated by the ligature, but above all, by the incandescent iron.

The mucous surface of the labia may also, in certain cases, become the seat of small pediculated polypous tumours, distinguishable by their shape from the vegetations of cancer and syphilis, and which are treated by excinding them with scissors curved on the flat. It is, further, not very rare to see lipomatous tumours growing in the substance of the labia; they offer the same character as similar tumours in other parts of the body, and require the same curative means, that is to say, as complete a removal and destruction as possible. The incision also suits for the removal of certain vegetations or partial hypertrophies of some of the vulvar tissues, such as warts, small cellular tumours filled with serosity, the venereal *poireaux*, &c. Let it be added, that, when these tumours attain a certain size, they become, though not painful in themselves, very inconvenient to the patient, and give rise to constant dragging pains, extending as far as the inguinal and lumbar regions.

## CANCER OF THE BREAST.

Cancer of the breast, from being very common, easily observable, and moreover most accessible to the surgeon, has been more studied, and has excited a more especial interest than the same malady in any of the other organs of the body. This affection, beyond contradiction the most serious malady to which the breast is liable, is incomparably more frequent in the female than in the male, notwithstanding the mammary glands are originally precisely alike in both the sexes. It is easy to explain this happy privilege, and this difference in our favour, if we but reflect that the mammæ in women have a much more important function to perform than in men, and are more exposed to the contact and influence of external causes, and also suffer from irritations and sympathetic excitements growing out of the state of pregnancy, the mensual periods, and all the modifications, whether normal or pathological, of the functions of the reproductive organs.

This most serious disorder of the female breast seems preferably to develop itself in the marriage state, after the lactations, in those who have large breasts, and chiefly at the period of life corresponding with that of the final cessation of the menses. Cancer of the breast has been seen, however, at the age of twenty and of thirty, but much more generally betwixt the thirtieth and fortieth year.

The *occasional causes* of cancer of the breast are either internal or external; among the latter are classed blows, falls, contusions, the pressure of tight corsets, adjusted with a view to push the breasts upwards, or, on the other hand, to flatten them, and lessen their apparent size; the bad habit indulged in by some women, of not supporting the breasts, but abandoning them to their own weight; the inconsiderate use of discutient and irritating topicals for the breast when inflamed, or affected with simple and chronic engorgements; and lastly, the sudden impression of cold air, especially soon after a confinement, and the astringent applications designed to check the secretion of the milk. These are justly regarded as capable of acting as the occasional causes of scirrhous indurations. We may add, that it is generally agreed that chronic inflammations of the breast, its milk engorgement, its herpetic, scrofulous, syphilitic and other engorgements, may, in some instances, degenerate into cancer.

The *internal causes* of the affection under consideration, are, irregularities and accidental suppression of the menstruæ; the cessation of a long chronic leucorrhœa, or piles, or profuse habitual sweat; the drying up of an old issue, the repercussion of certain exanthematous disorders, of psoric and herpetic affections; the metastasis of gout, rheumatism, wandering erysipelas, as in cases of the kind reported by Pouteau; and a variety of other causes more or less evident; which, like those now above mentioned, are incapable of giving rise to an attack of cancer, except where they coincide with some occult cause whose essence is unknown, that is to say, a disposition which is interior, and individual for the person who suffers, and which is commonly designated by the term *cancerous diathesis*. According to some practitioners, this mere disposition to have cancer suffices,

in some instances, to give birth to the malady, while in others it may co-exist with the whole duration of life, without exhibiting itself in any external symptoms. It has further been supposed, that the cancerous diathesis does not always exist in the same degree of intensity, which may explain why a slight irritation may be enough to provoke the development of cancer, whereas, in other circumstances, it requires the concurrent operation of many powerful occasional causes, to give life to the malady.

*Progress and symptoms.* A cancerous degeneration of the breast most commonly begins as a small tumour, more or less regularly rounded, hard, circumscribed, movable under the finger, indolent, without change in the colour of the skin, and situated, which is most common, in some point of the adipose tissue of the breast, or in the body of the mammary gland itself, whose parenchyma becomes hard, heavy, compact, and more or less voluminous as to its size.

A scirrhous tumour that has formed in the adipo-cellular tissue of the breast, may be readily circumscribed with the fingers, for it is completely isolated by the cellular layers which surround it like the walls of a real cyst. In the rarer cases, where the morbid induration has commenced by affecting the mammary gland itself, the abnormal tumour cannot be circumscribed, and runs into the sound parts in every direction, and is confounded with them. Where the whole gland is invaded, it becomes transformed into an irregular botryoidal mass with the nipple adhering to it, and enveloped in a certain quantity of cellular and adipose tela.

During the early stages of cancer it often happens not only that the health of the patient undergoes no depravation, but, on the contrary, it appears that her freshness and embonpoint actually improve. Unfortunately, however, after the lapse of a period of uncertain duration, the progress of the disease comes to cheat all these false hopes. In general, after having received some blow—some pressure, after the natural or morbid suppression of the menses, or even without any known cause, the isolated tumour grows rapidly, spreads in every direction among the neighbouring parts, with which it forms adhesions so as gradually to invade the whole breast. A scirrhus that has begun by the mammary gland proper, also, under such circumstances, takes on a new power of extension, that is to say, after having involved the entire gland, it seizes upon the adipose tissue round about it, and continuing its progress from the centre to the circumference, extends its ravages to the textures exterior to the mamma. The patient, who began by feeling a sort of disagreeable itching or tickling sensation in the breast, with a sense of heat and pricking, now experiences deep dull pains, which next become lancinating, and which, felt and lost by turns with the rapidity of lightning, are compared to the thrusts of a needle or a sharp pen-knife, suddenly forced through the breast. The skin covering the scirrhous induration becomes of a rose tint, has a polished appearance, and is tense; the subcutaneous veins become nodose, distended with blood, and perfectly distinct; the nipple, which is attached to the glands by the galactophorous tubes, and also by a resisting tissue, being unable to follow the growth of the tumour towards the exterior, remains buried

within a sort of pit, and in many instances becomes at last completely effaced as the surrounding parts project more and more.

The malady, which ceases not its onward progress, soon changes its features, and exhibits itself in its distinctive characters, sapping, more or less furiously, the life of the unfortunate victim of its attack. Now is the period arrived when the pain, becoming more frequent and atrocious, and acquiring increased violence during the evenings and nights, prevents the patient from tasting of repose, and introduces a general perturbation of the economy. The tumour shows some points more raised than the rest, and quite in relief above the surface; the skin that covers each of these reliefs, and that has taken on a deep red or livid hue, grows thin, cracks, and is covered with fissures which discharge an ichorous serosity, the colour and fetor of which vary, while its acrimony inflames and even ulcerates the neighbouring parts. These fissures and ulcerations increase in size, and gradually approaching nearer and nearer to each other, are at last fused into one horrible ulcer, whose edges roll outwards, while they constantly grow thicker and harder. An ulcerated cancer of the breast that has reached this stage, exhibits a knotty, grayish, wan-looking surface, which, in some instances, overspreads itself with reddish fungous vegetations, secreting a sanious, and generally very fœtid fluid. Lastly, frequent attacks of hæmorrhage, arising from the erosion of the vessels, sometimes assist in diminishing the severity of pain, but for the most part, these sanguine discharges, instead of doing any good, only serve to exhaust the remaining strength of the patient.

Upon reaching this stage the disorder is no longer local, and those general phenomena begin now to manifest themselves, whose ensemble constitute the cancerous cachexy. Thus, the patient, who loses her freshness and her embonpoint, and whose skin takes on a yellow straw-colour, is now tormented with a dry and frequent cough, attended with heat and gnawing pain behind the sternum; she is agitated with febrile paroxysms, suffers under extreme anxiety, a distressing oppression, a great disgust for food, obstinate constipation alternately with purging, and in fine, she has most of the general symptoms denoting the cancerous cachexy, treated of in our article on cancer of the womb. We should mention, that the subclavicular glands begin to swell, and those of the neck and axilla which have also swollen, become knotty and scirrhous. The arm corresponding to the diseased side, in some cases becomes œdematous, tense, painful, and incapable of motion. We have seen a cancerous degeneration of the mammæ invade not only the pectoral muscles, but even expose the ribs and extend its ravages to the pleura costalis, which had itself become exposed, thickened and fungous.

Cancer of the breast does not always pursue the development and march we have here pointed out. Instead of always commencing as a small hard rounded tumour, situated in the true parenchyma of the mammary gland, or in the adipo-cellular tela surrounding it, it invades suddenly, and almost at once, a great part or even the whole of the breast. This form of cancer has been observed in very fat women, who have attained to the period of change of life. The

tumour, which occupied the entire breast, is a little flattened, hard, movable with the rest of the breast, but not rolling. The skin above it is always thicker than natural, and is united to it by so dense a cellular tela, that it is not possible to make it slide over the surface of the induration, or to pinch it up from the surface with the fingers.

As these changes in the density and size of the breast mostly take place in the beginning, without giving rise to any pain at the time, the woman does not discover it, for the most part, until the size of the breast has considerably augmented, or until a clear bloody serosity, escaping from the nipple, happens to soil her dress. The nature of the evil soon leaves no uncertainty on the mind; the teguments of the indurated breast, after having, for some length of time, preserved their colour, assume a darker cast, and exhibit certain tortuous eminences produced by the blackish varicose veins of the part; the pain, which was at first tensive, soon grows into lancinating pain. The mammary globe, whose size and density have gone on increasing, exhibits upon its surface those knotty protuberances which, by ulcerating, give birth to the symptoms of the last stage of cancer.

The cancerous degeneration of the breast may likewise assume the form designated by writers as *soft cancer*, which forms either in the gland, or in the adipo-cellular tissue about it. In the commencement, this variety is not only less hard than a scirrhus, but it grows also with much greater rapidity. It is also distinguished from scirrhus by knots that are much larger, softer, and having a sort of fluctuation. This, moreover, is the form of cancer that is most likely to retain its indolence, and in which the vessels also are most dilated. When the tumour has attained a certain size it adheres more and more closely to the skin, which grows red and violaceous as to tint, and admits of our perceiving a much more decided fluctuation. If a cutting instrument be plunged into the centre of the softened portion, a bloody serum flows out; when the tumour opens spontaneously, there generally springs from the opening a fungus like a mushroom, which sometimes strangulates itself and falls off, which makes the patient suppose herself to be cured, until one or several such vegetations come to dispel her consolatory illusions.

[I saw such a cancer, which protruded in the breast of a primiparous young lady. The tumour had been noticed eighteen months before her marriage. The lactation developed the malady. It came out like a mushroom, and was removed at the base of a sort of pedicle, by a ligature applied by my distinguished townsman, Dr. J. Rhea Barton. The cure is complete. She has been confined again, and nurses her child without any menace.—M.]

It also happens, in some cases, that the tumour is formed by a great cyst, containing from three to six ounces of bloody serosity; the walls of the cyst, which are generally smooth, resemble a serous surface, and present at some point one or more fungi. This form of encysted degeneration is the least mischievous, and least subject to relapse, because, when the cyst is taken away, the disease is destroyed. Where the cancerous tumour is not encysted, which is incomparably the most frequent case, the diseased tissue, some portions of which

resemble that of the spleen, is blended with the healthy tissues, and this variety, a most dangerous one of mammary cancer, often terminates by gangrene.

We ought still to treat of a variety described by Lassus: this author says, (*Pathol. Chirurg.* t. i.,) that there are some women, in whom, at the age of forty or fifty years, the two breasts suddenly become voluminous and as hard as marble. The tumefaction and hardening extend to the shoulders and front of the chest, the skin is reddish and marked with lines, the pain is excessive, the patient experiences considerable difficulty of respiration, and may perish prior to the ulceration of the tumour. It is to this variety that Professor Alibert has assigned the name *cancer éburné.*

Finally, in some subjects, it is not the cellular tissue or glandular portion of the mammæ, which is primarily affected, but the skin which covers them; then are developed here and there upon the surface of the integuments of the breast hard, rounded tubercles, of a violet colour, increasing gradually in number and size, and blending together little by little as they approach each other. The skin becomes hardened and wrinkled, and retracts upon the dried mamma. Lancinating pains come on, the axillary glands become engorged, and, before long, the disease produces its accustomed ravages. This variety is allied to that which, according to Boyer, occurs at the critical age, and in which the breast, instead of being engorged, becomes hardened and shriveled from assuming a firm, compact consistence in one or more points of its circumference. The indurated mamma, in this form, adheres so firmly to the subjacent parts, as to become entirely immovable, and seems attached by a very hard cord to the nipple, which has almost diappeared. Pouteau, (*Œuvres Posthumes*, t. i.,) who likewise speaks of this variety of cancer of the breast, regarded it as the most intractable of all. The progress and duration of cancer of the mamma vary greatly in different cases; we think it should be divided into *acute*, *chronic* and *stationary cancer;* the first rapid in its progress, and lasting from three to six months; when a relapse takes place after the operation, it generally shows itself before the cicatrization of the wound produced by the removal of the tumour. Fabricius Hildanus states that, in the space of four months, a cancer destroyed the whole of the breast and the neighbouring parts. Professor Roux, (*Mélanges de Chirurgie*, p. 165,) speaks of having seen the breast of a woman, at the critical period of life, enlarge considerably and become covered with cancerous ulcerations, which caused death in less than three months. *Chronic cancer* is slow in its progress, and may last several years; it does not, in general, relapse until after the cicatrization of the wound. Finally, *stationary cancer*, which is more rare than the preceding, passes through its stages so slowly, that patients retain it during a greater or less number of years, and sometimes during a lifetime, as they often perish at an advanced age, of some disease independent of the cancer. We may add, that the progress of the mammary degeneration under consideration, is more rapid in proportion as the tumour is larger, softer, and more painful, and that those which relapse after an operation have a very rapid course always. Let us remark, lastly, that cancer

of the breast, like the different engorgements of that organ, sometimes seems to augment periodically at epochs corresponding to the menstrual function. The pain and the tumour, which augment with each return of the menses, diminish sensibly during the interval. It may be well to remark, that the momentary improvement which takes place at those periods, is generally attributed to the effect of some new treatment, the good effects of which are always too hastily proclaimed.

The *termination* of cancer of the breast, when left to itself, is almost constantly in the death of the patient, which is generally determined by the general symptoms, constituting the cancerous cachexia. The woman may perish, also, before the disease has passed through all its stages, from some complication; such, for example, as acute or chronic pleurisy, hydrothorax, or general dropsy; some dangerous affection of the intestinal canal, and finally gangrene, which often attacks the mammæ; the last complication, which generally renders the prognosis still more unfavourable, may, in some very rare cases, become a mode of cure by separating the diseased from the healthy parts; unfortunately, this mode of termination does not preserve from relapse, and the hope of radical cure it gives rise to, is often ephemeral. The spontaneous cicatrization of cancer, without surgical treatment, of which MM. Nicod, Bayle and Cayol, cite examples, is a termination still more rare than the preceding.

The *diagnosis* of mammary cancer is often obscure, especially at the commencement of the disease; an encysted tumour, with a hardened base, for example, has sometimes been taken for scirrhus, but this mistake is of no great consequence to the patient; for, extirpation is equally indicated in both. There have, likewise, been confounded with scirrhus of the breast, not only the fibro-cartilaginous tumours, which are sometimes developed there, but also chronic, venereal, scrofulous, milky, and herpetic engorgements, etc., which, in some cases, undergo the cancerous degeneration. These mistakes might almost always be avoided by referring to the preceding history of the patient, by tracing the march of the disease, and especially by recalling the diagnostic signs which we are about to point out as peculiar to the cancerous induration of the breast.

We may affirm, without fear of mistake once in a thousand cases, that we have a scirrhous induration of the mamma, when we meet with a tumour seated upon some part of that organ which is hard, unequal, indolent, insensible to pressure, which has existed for more than a year, resisted the treatment for chronic inflammations and for scrofulous, milky and herpetic indurations, etc.; which has become the seat of sudden lancinating pains; and lastly, which is quite indolent and insensible during the intervals between the pains, which may be compared to the pricking of needles.

The *prognosis* depends upon the nature of the disease; the stages through which it has passed; the complications; the age and temperament of the patient; in a word, upon all the circumstances that may exert a favourable or unfavourable influence. When the patient is of strong constitution, young, well regulated, affected with a scirrhus in the first stage, which has been developed under the influence of some

external cause, the prognosis is as favourable as it can be. The disease resists, with great obstinacy, all curative means, when the patient is irritable, nervous, melancholy or hypochondriacal. When the tumour is voluminous, adherent, extended, irregular, lancinating, softened in some points, and especially when it has been developed spontaneously about the critical age, the prognosis becomes more unfavourable; but it is still more unfortunate when, to these symptoms, are added considerable engorgement of the axillary glands, dyspnœa and cough; and, to conclude, no hope remains when the general symptoms are marked; when the disease, after having passed rapidly through its stages, still exerts an injurious influence upon the constitution, and the tumour, ulcerated to a great extent, furnishes an abundant sanious and fetid suppuration.

As the *treatment of cancer* of the breast has for its object not merely to combat this affection after its development, it ought, therefore, to be divided into the *conservative*, *curative* and *palliative*. The preservative treatment consists in preventing and combating, by the most suitable means, certain diseases and derangements of the functions which, in the opinion of the best practitioners, may prove to be the sources of cancer—amongst others, suppression of the menses, scrofulous, milky, herpetic and venereal engorgements, and the different acute and chronic inflammations of the breast. The conservative treatment of cancer of the mamma is nothing more, therefore, than the curative treatment of the pre-existing disease. It is by this method that the most distinguished practitioners, having dissipated, by general and local antiphlogistics, and by resolvents, etc., the chronic engorgements of the breast, have asserted positively as to their having cured tumours of a cancerous nature, when, in fact, they have, in almost all the cases, merely prevented them.

While, in our opinion, confirmed cancer is incurable by the resources of medicine alone, properly so called, we believe, founding upon our own experience, and upon the observations of a great number of physicians, amongst others Hippocrates, Galen, Fearon, Ledran, Vacher, Pouteau, Hufeland, Marc-Antoine-Petit, of Lyons, Lisfranc, Récamier, and Lallemand, of Montpellier, etc., we believe, we repeat, that it is possible, and when the disease is not of long standing, to obtain the resolution of certain hard engorgements of the breast, which, without our being able to affirm them truly scirrhous, since their dissection cannot be made, offer at least the strongest analogy to tumours of this nature, and often present perfectly identical characters.

The treatment of scirrhous tumours of the mammæ consists in removing the causes which may have produced them, if we can succeed in discovering these causes, and then resorting to the methodical employment of the different means we are about to point out. If the woman be young and plethoric, we should first order a general bleeding, which may be repeated several times, if the disease be in the acute stage, and then make applications of leeches about the tumour, which should afterwards be covered with an emollient poultice, sprinkled with laudanum. Fumigations of elder-flower water, the bath, demulcent drinks, mild regimen, frictions of the skin, dia-

phoretic infusions, residence in a dry and well-aired situation, gaiety, quiet and agreeable amusements, moderate exercise, with the precaution of avoiding violent movements of the superior extremity corresponding to the diseased gland, and lastly, a perfect execution of all the functions of the economy, will contribute very much to the resolution of the induration.

After employing these various means for some length of time, should we find that the tumour has ceased to diminish and is no longer painful, it will be well to make use of discutients and resolvents, with the precaution, however, of associating them at first with emollients, lest they determine too acute an inflammation. We should employ poultices of flax-seed and of windsor-beans, made with simple water at first, and then with elder-flower water, infusion of chamomile, soap and water, in succession, and, finally, with a mixture of Goulard's lotion, or decoction of roses and red wine. The discutients should be succeeded by other more active agents, such as the ammoniacal liniments, plasters of camphorated soap, of cicuta, vigo cum mercurio-plaster, frictions of mercurial ointment or ointment of hydriodate of potash, fumigations of vinegar, ammonia, cinnabar and juniper berries, and, lastly, bags of fine linen, containing muriate of ammonia, thoroughly dried and reduced to powder. We should prescribe, at the same time, the internal use of aperients and bitters, amongst others the expressed juices of succory, of fumitory, and of bugloss, tisans of water-dock, of soapwort, and of scabiosa, to which may be added, from time to time, suitable quantities of sulphate of magnesia and of soda, the use of Seidlitz water, or of some other mild laxative, which, producing a transient excitation of the digestive tube, will promote the resolution and concur in augmenting the efficacy of the other remedies. The application of a swan or rabbit skin, is likewise useful in maintaining the breast at a uniform temperature and in a state of moisture usually very favourable. We add, also, that in most of the cases, we may, like M. Lisfranc,* after the antiphlogistics, and in combination with the resolvents and discutients, make use of local excitants, such as frequently repeated applications of a few leeches, say from three to six, used alternately with small moxas of three or four lines in diameter, or very small blisters placed about the mamma.

*Compression*, brought into use, in France, by M. Biett, after having been employed, first in England, by M. Young, and then by M. Pearson, and Doctor Ch. Bell, who rejected it, and, in a report which he made in the name of the Medical Committee of Middlesex, described it as always injurious,—compression, we repeat, is likewise a means which, combined with some of those we have pointed out, constitutes a new mode of treatment fully deserving of the attention of physicians. Though this method, from which M. Récamier has obtained good effects, has failed, and could not even be borne by many of the patients, it has, nevertheless, effected cures in several cases that were even despaired of, or has, at least, very much facilitated

* In the inaugural dissertation, (No. 68, May 1, 1826,) Doctor Corbin has published several cases, proving the efficacy of M. Lisfranc's method, the happy results of which we have ourselves been able to appreciate.

the extirpation of the disease, either by reducing the tumour to a small size, or by rendering it movable, and isolating it from the parts with which it had formed adhesions.

This treatment consists in the application of permanent pressure, continued during a certain period, to the mamma affected with cancer in its different stages,—even in the state of ulceration, which, in this case, however, must first be cauterized, so as to produce a slough of all the affected parts, and allow of the subsequent approximation of the edges of the wound with adhesive strips. As it would take too long to describe M. Récamier's bandage in detail, we shall be satisfied with saying that it is composed of one long roller and of several discs of agaric interposed between each turn, in such a way as to enclose the tumour gently and equally, and form a truncated cone, the base of which covers the whole breast, and the apex corresponds, as nearly as possible, to the centre of the induration.

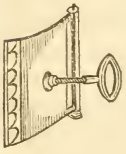
In order to avoid compressing the whole circumference of the thoracic parietes, so generally and violently, and with the view of acting more directly upon the whole tumour, without, in any way, pressing the healthy breast, we invented, ten years since, a mechanical bandage, which may be applied and removed in a few minutes. This compresser, by establishing a local pressure, which the physician and the patient can augment or diminish at will, by means of a key, renders the method much more supportable, and does not require, like the roller bandage, to be entirely removed when the compression becomes painful or when it interferes with the dilatation of the thorax, and, consequently, with respiration. Let us add that our mammary compresser, which, by means of straps, may remain applied while the patient is in bed, as well as when up, requires, like M. Récamier's bandage, discs of very soft agaric of different sizes. The instrument, when complete, is composed as follows: 1, a hollow elastic cushion, (*pelote*,) designed to cover pieces of agaric and keep them in place, upon the tumour; 2, a girdle, two inches and a half wide and a yard long, arranged with an opening or fenester, to be enlarged or diminished at will, so as to receive the sound breast, and thus entirely avoid compressing it; 3, a steel

Fig. 44.

plate, with a screw upon its external surface, by turning which the cushion may be forced down upon the diseased breast. On one side is a cylinder, with a rachet wheel, by turning which the girdle may be lengthened or shortened, at discretion. On the other side is a six-tongue buckle. The *figure* (No. 44) on the preceding page explains the apparatus adjusted in sitû. The circular pad, or cushion, is represented by the *figure* annexed, No. 45; and the form of the steel plate is designated by *figure* 46, which is also annexed.

Fig. 45.

Fig. 46.



M. Récamier does not always employ compression alone, in the treatment, and exclusively; for example, he commences by the application of leeches, by cauterization, by enucleation, and by the ligature, according as the tumour is painful and inflamed, or is affected with ulcerated scirrhous masses and fungous vegetations. Though we believe with the distinguished practitioner we have just cited, that compression often renders the tumour more movable and more favourable to the success of the operation, we are of opinion that it ought not to be resorted to except when the induration is but slightly painful on pressure and presents no solution of continuity. We ought to remark, also, that there are some women who cannot bear compression in any mode in which it can be applied, and that the constant attention, moreover, which it necessitates during many consecutive months, may lead us to ask whether extirpation would not be preferable, even though the compression were supportable and advantageous, and examples of cure more numerous than those which the science records. For ourselves, we are of opinion that when the patient can support compression, it is well to employ it, as well as all other means, before deciding upon the removal of the cancerous part.

When the methodical employment of the internal and external means, just pointed out, brings about an evident diminution of the tumour, their use may be persevered in as long as they continue to act favourably; but, should the induration retain its consistence and size, and, *a fortiori*, should it augment in size, become painful and irregular, and at length become ulcerated, softened, and present all the characters of confirmed cancer, we ought to renounce the hope of obtaining its resolution, and abstain thenceforth from fatiguing the patient by a treatment, the inutility of which is manifest, and which, if continued for a longer time, would become hurtful, by hastening the progress of the cancerous degeneration.

We shall not attempt to exhibit the immense list of substances which have been, in turn, set forth for the treatment of ulcerated cancer: their inutility, now generally acknowledged, is a legitimate excuse for thus passing them by. We shall rest satisfied by recalling, in few words, the therapeutical means which have more particularly fixed the attention of physicians; but we ought to inform our readers that we shall pass by, in silence, the internal remedies which

have already been mentioned in our remarks upon cancer of the uterus. Among the external remedies that have had a more or less deserved reputation, we cite, first, arsenic employed alone or united with other substances, by John Gaddesden, Valescus of Tarentum, Fuchs, Paracelsus, Reusner, Jerome Capivacci, Pierre Alliot, Deidier, Roosselot, Frere Côme, Justamont, the celebrated Dubois, Messrs. Zang, Bugniard of Lyons, Grandpré of Givors,* and a number of others, whom it would take too long to name.

Lead also has been used in the state of oxide made into a plaster, by Balthazar Timée; in the state of acetate in solution, by Goulard, Imbert, Fearon, Boyer and Pissier;† and finally, in the metallic state, by means of a plate covered with *unguent. diapompholigos*, by John Schmidt, (a drying ointment, composed of oil, wax, juice of nightshade, incense, flowers of zinc, and oxide and sulphuret of lead. —M.) Mercury, in the state of proto and deuto-chloride, has also had its partisans; amongst others, Dowman and Norford. The same is true of the carbonate, the phosphate and the arseniate of iron, recommended by Mr. Carmichael; of the sulphate of copper and the muriate of baryta; and, finally, of the diluted acids, especially the hydrochloric; and of different gases, as carbonic acid, (Peyrilhe, Evrart and Fourcroy,) chlorine, and the sulphurous, mercurial and arsenical vapours, (Grandpré.)

The vegetable kingdom has likewise furnished a large number of external pretended anti-cancerous remedies, such as opium, cicuta, (Stork, Kapp,) nightshade, (Vesalius,) belladonna, (Lambergen,) cinchona, (Dietrich,) rasped carrots, (Sultzer,) and a number of other vegetable substances. In the animal kingdom, we find the gastric juice of animals, the blood and flesh of cattle, the infusion of snails, and especially the spawn of frogs, whose marvellous efficacy was vaunted by O. P. Braun. Cauterization, by means of a hot iron or the solar rays collected by a lens, or, finally, with different escharotics, such as arsenical powder, the nitric and hydrochloric acids, chloride of antimony, nitrate of silver, and the acid nitrate of mercury have been likewise included in the immense list of external therapeutical remedies.‡

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* It is particularly in the treatment of superficial carcinomatous ulcers, that M. Grandpré has proved the good effects of arsenic combined with sulphur, and especially with the sulphuret of mercury, (cinnabar,) employed chiefly in fumigations directed upon the affected surface, which is isolated by means of an apparatus to prevent the respiration of the poisonous vapours. Plunket's remedy for cancer of the breast was also a combination of arsenic and sulphur; but he added a certain quantity of powdered ranunculus, and used the mixture merely as a topical application.

† M. Pissier combined the opium with the oxide of lead, and Professor Boyer with the acetate of the same metal.

‡ Of all the caustics employed in the treatment of cancerous affections, there is none whose use has been more general than that of Roosselot, modified by the celebrated Dubois. This paste is composed, of dragon's blood, an ounce, sulphuret of mercury, half an ounce, and arsenious acid, half a drachm; which must be pulverized and well mixed. To employ these substances, it is necessary to moisten them to the consistence of paste. Dupuytren employed, with advantage, the nitrate of

Could we localize the disease and confine its action to the degenerated part, nothing would be easier than to cure cancer of the breast, since it is almost always possible to remove it completely. Unfortunately, when the patient decides upon the operation, this is no longer the case, and commonly the whole economy then participates in the cancerous affection. It is from hence that the tumour, when removed, is often and early replaced by another, even before cicatrization is finished; and it would seem that the disease has acquired new force, for it now advances with hopeless rapidity. It is, therefore, important to operate too soon rather than too late, because, when the disease is confined to any induration of small extent, and is not ulcerated, we shall not only have less cause to fear a relapse, but the tumour to be removed, being small and movable, will require an operation of little importance, whilst, by deferring it, the degeneration, having increased, constitutes a serious disease, strongly disposed to relapse, and requiring a laborious operation, with extensive and deep incisions.

Though Celsus,* Archigenes,† Albucasis,‡ Pierre Cerlata,§ Leonard of Bertapaglia,‖ John Tagault,¶ Triller,** Monro,†† Reneaulme,‡‡ Boyer,§§ Rouzet,‖‖ and some modern surgeons, are amongst the antagonists of the extirpation of the cancerous breast, we believe with Galen,¶¶ Leonidas,*** Aetius,††† Paul of Egina,‡‡‡ Avicenna,§§§ Rhazes,‖‖‖ Lanfranc,¶¶¶ Scultetus,**** de la Vauguyon,†††† Heister,‡‡‡‡ Cheselden,§§§§ Verduc,‖‖‖‖ Ledran,¶¶¶¶ Lecat,*****

mercury, prepared in the following proportions: crystallized mercury, four drachms; nitric acid, an ounce. M. Récamier often makes use of this remedy, or of a concentrated solution of caustic potash. We think that it is necessary to cauterize deeply, so as to attack the totality of the cancer, which, when not completely destroyed, reappears with great rapidity and with augmented virulence.

* Lib. v. cap. 18.
† Aetius, tetrab. iv. serm. iv. cap. 43.
‡ Chirurg., lib. i. sect. 50.
§ Philos., lib. vii. cap. 33.
‖ Chirurg., tr. i. cap. 25.
¶ Instit. chirurg., lib. i. cap. 15.
** Haller, diss. chirurg., t. ii. p. 475.
†† Edinburgh, trans. supplem., 1752.
‡‡ Non ergo mammæ, sect. curand. Paris, 1732.
§§ Traité des malad. chirurg., t. vii. p. 297, 1821.
‖‖ Recherches et observat. sur le trait. du cancer. Paris, 1818, 1 vol. in 8vo.
¶¶ Method. med., lib. xvi.
*** Aetius, tetrab. iv. serm. iv. cap. 43.
††† Loc. cit., cap. 42.
‡‡‡ Lib. vi. cap. 45.
§§§ Canon., lib. iv. fen. iii. cap. 2.
‖‖‖ Continens, lib. xiii. cap. 2.
¶¶¶ Chirurgia parva, tr. i. doct. iii. cap. 13.
**** Armamentarium chirurg., pars i. p. 22, tab. xiv. et tab. xxxvi.
†††† Traité comp. des operat. de chirurg. chap. xvii. p. 163.
‡‡‡‡ Chirurg., t. ii. cap. 107.
§§§§ Observ. 1749, and biblioth. chir. of Haller, t. ii. p. 24.
‖‖‖‖ Opérat. des chirurg. et pathol., t. i. chap. 15.
¶¶¶¶ Traité des operat. de chirurg., p. 375.
***** Biblioth. chirurg. de Haller, t. ii. p. 176.

Garengeot,* Dionis,† J. L. Petit,‡ Vacher,§ Siebold,‖ Sabatier,¶ Camper,** Dessault,†† Bell,‡‡ James Hill,§§ and, finally, Scarpa, Dupuytren, MM. Roux, Richerand, Zang, Cloquet, Lisfranc, S. Cooper, Velpeau, Sanson, Begin, Amussat, and a great number of other distinguished surgeons of our epoch, we believe, we say, that the operation should always be attempted when none of the contra-indications, about to be mentioned, exist.

If it be objected, that out of sixty women, whom Monro (loc. cit.) saw operated upon, four only had no relapse at the end of two years; if we are told, moreover, that the celebrated Boyer (loc. cit.) gives an equally unfavourable diagnosis, since, of one hundred cases of extirpation of cancerous parts, there were only five subjects radically cured, we will oppose the testimony of James Hill, who, in ninety-eight cases of cancer, saw but twelve relapses; and we might quote, also, Doctor North, who has remarked but few cases of failure in more than one hundred examples. Finally, to a large number of other authentic facts, establishing radical cures, we might add the observation of Zeller, of Zellemberg,‖‖ who, in 1810, amputated with entire success, a cancerous breast of more than two feet in diameter, and that not less singular case of F. T. Ochmer,¶¶ who likewise removed successfully a cancerous mamma, weighing ten pounds, from a pregnant woman who was delivered without accident, and recovered perfectly. Finally, we cite the ablation of two mammæ, performed with success on the same female, by Foubert,*** and the same operation performed a few years since by MM. Thuillier and Thibault,††† at the hospital of Limoges, on a girl twenty-two years of age, both of whose mammæ were attacked with a scirrhous degeneration. These organs were so much tumefied that they weighed about twenty-nine pounds, and had been only four years in attaining this extraordinary size. The mamma removed at the first operation weighed fourteen pounds and a half, and the cicatrization of the wound did not occur until after seventy-five days. The second mamma, the weight of which equaled that of the first, was removed three months afterwards, and union was obtained in fifteen days.

Without wishing to describe, or even indicate all the methods proposed or employed by authors for the extirpation of cancer of the mamma, we are about to confine ourselves to the description of the operation, as it is performed by most surgeons of our period, but we shall be careful to point out the different modifications which may be

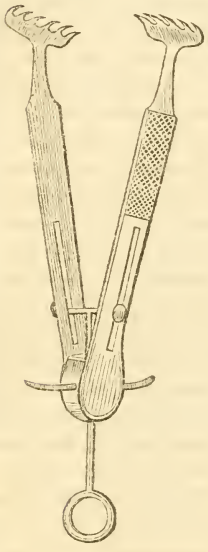
* Traité des operat. chirurg., t. ii. cap. vii. art. i.
† Cours d'operat. chirurg., dem. v. p. 381.
‡ Traité des malad. chirurg., t. i. chap. iv.
§ Dissert. sur le cancer des mammelles, 1740.
‖ Huermann, chirurg. opérat. t. ii. cap. 20. ¶ Méd. opérat.
** Gences natur, etc., p. 194.
†† Œuvres chirurg., par Bichat, t. ii.
‡‡ Treatise on the Theory and Manag. of Ulcers, part ii. sect. viii. Edinburgh, 1778.
§§ Cases in Surgery. Edinburgh, 1772.
‖‖ Abhandlung, ueber, etc. Wien, 1810, p. 194.
¶¶ Observ. einer scirrheusen, etc., 1774.
*** Mem. de l'acad. de chirurg., t. iii. p. 118.
††† Dissert. sur le cancer, etc., par M. Gaudeix Laberderie, Paris, 9 Juillet, 1827.

required by the mobility, small size, great development, or adhesions of the tumour, or finally, the complete degeneration of the breast, and the different complications which may be met with.

*Mode of operating.* In order to obviate the danger of syncope, and that the surgeon may be more conveniently placed during the operation, we think, that instead of seating the patient on a chair, it is better that she should lie on a bed or table, arranged in such a way that the head and thorax may be sufficiently elevated to make the breast project as much as possible.

When the tumour is circumscribed, movable, and of small size, it is sufficient to make a longitudinal incision in the breast proportioned to the size of the induration, and then with a double hook, or still better with the much more commodious forceps which we have invented for this operation, (*vide fig.* 47,) we seize, after having separated the edges of the incision, the morbid production, and draw it out with the left hand, while the right, armed with a convex bistoury, finishes its separation and detachment from the cellular and vascular bands to which it adheres. When we have arrested the flow of blood by the ligature or torsion, the edges of the wound are drawn together with adhesive straps.

Fig. 47.



Where the breast is very much developed, and particularly if the tumour were large, although circumscribed and movable, it would be advantageous, according to the advice given by Paul of Egina,* not to preserve all the integument, but to excise a larger or smaller ellipsis of it. In this way, the operation would become not only easier and more rapid, but would more probably be successful, because the lips of the wound would be in a condition more favourable to nice reunion, than if all the integument had been preserved. In case the skin itself should be altered, thinned, and adherent to the tumour, we should, with still greater reason, follow this precept, that is to say, remove all the affected parts by two semi-elliptical incisions, which ought always to include a certain portion of the healthy tissue. If the entire breast were implicated, it would be necessary, after the precept of Pimpernelle, Verduc, and most modern surgeons, to circumscribe the organ by two semi-circular incisions, in such a way that the large diameter of the wound might be directed obliquely from above downwards, and from without inwards, in the direction of the fibres of the great pectoral muscle, the projection and tension of which should be augmented by causing an assistant to hold the arm upwards and outwards.

In order to proceed to the operation, the surgeon, after having caused his patient to be arranged in the mode we have just pointed

* De le med., lib. vii. cap. 46.

out, should draw the skin of the breast in a direction the contrary of the first semilunar incision, that is to say, the inferior, and then when this is finished, he should draw down with his left hand the parts to be extirpated, and making an assistant tighten the integuments above, he should insert the cutting instrument in the external angle of the first incision, and make the superior incision, which he will terminate at the inferior angle of the wound, of which it will complete the ellipsis. When the cancerous mass has been thus circumscribed, he will seize the mass to be removed with our hook-forceps, or with a pair of Muzeux forceps, and then dissect the tumour first from below upwards, and then from above downwards, taking care to leave a portion of healthy tissue about the affected gland; if the depth of the disease require it, he should not fear to go down to the muscular fibres, and even to the ribs.

With the view of terminating the ablation of the cancerous tumour more rapidly, we may dispense with tying the arteries as they spring, closing their orifices by the fingers of an assistant. Should any diseased or suspected portions have escaped the instrument at first, it would be necessary to extirpate them at once; finally, after having tied the vessels and washed the wound, the operator should approximate the edges and maintain them in contact with the thumb and index finger of each hand, while an assistant applies long adhesive strips, beginning with those in the middle. The number of these strips must vary according to the extent of the wound; and small intervals should be left between each, in order to give issue to the pus and other secreted fluids. A pledget covered with cerate, one or two bundles of charpie, and long compresses maintained by a body bandage, complete the dressing apparatus required in this operation.

Where the loss of substance is so great as to render the approximation of the edges of the incision impossible, or at least very difficult, it would be well, after the precept of M. Lisfranc, to separate each side of the wound from the subjacent parts, to the extent of one or more inches; by this method, we procure sufficient integument to unite the wound directly. In case we should not wish to resort to immediate reunion, the adhesive strip would become useless, and it would suffice to cover the wound with a piece of linen spread with cerate, and with holes cut in it, and some pledgets of charpie and several compresses. Should there exist any engorgement of the axillary glands of a suspicious nature, we should prolong the upper angle of the wound as far as these glandular indurations, but if too distant, it would be better to effect their extirpation, by exposing them by independent incisions; finally, if we had reason to fear lesion of some rather large vessels, it would be necessary, after having properly isolated them, to tie the pedicle of the engorged glands, and then divide it in front of the ligature, as advised by J. L. Petit, Dessault, Dupuytren, Zang, MM. Lisfranc, Velpeau, and other distinguished surgeons.

In case the wound should assume an unfavourable appearance a few days after the operation, it might be recovered by applications of chlorinated soda or wine and honey, or cauterization with nitrate of

silver. If symptoms of purulent absorption should suddenly make their appearance, such as nausea, rigors, fever, etc., it would be necessary to destroy, as soon as possible, the adhesions under which the pus has accumulated, and then introduce a tent to prevent the too rapid approximation of the edges of the wound. We should never forget, that it is to the neglect of this important point of surgical therapeutics, that we must ascribe most of the failures in removal of the breasts, and in a number of other operations.

We shall conclude by saying that, if, after some lapse of time, any vegetations or small tubercles of doubtful nature should appear, it would be necessary, after the example of Lapotérie, of Frère Côme, of Zang, and some modern surgeons, to destroy them as soon as possible, either with a cutting instrument, with fire, or some caustic substance, as the arsenical paste, acid-nitrate of mercury, or the lapis infernalis.

*Circumstances that contra-indicate the operation.* Two circumstances may, according to M. Richerand, contra-indicate the operation; the too great extent of the local degeneration, and a general cancerous infection. The operation ought likewise to be rejected in cases where the breast is immovable, adherent to the ribs, and as it were, cemented upon the thorax; when its progress has been rapid, when the skin is tuberculous for some distance; and finally, when the glands of the axilla are greatly engorged, even as far as the very neighbourhood of the great vessels. We ought to remark, however, that this latter circumstance may, according to the remark of Dupuytren, depend upon a sympathetic irritation, which ceases when its cause has been removed.* We add, that extensively ulcerated cancer, encephaloid and melanoid cancer, as well as scirrhous cancer, which has suddenly invaded the whole of the breast, are the most disposed to a sudden relapse. On the contrary, movable scirrhous tumours, which are recent and of small size, hydatiform, encysted, and tuberculous cancers, offer the most favourable chances for the success of the operation, and the radical cure of the patient.

Notwithstanding the example of Foubert, reported by Ledran,† who successfully performed on the same female and on the same day, the amputation of both mammæ, one of which was deeply ulcerated, and the other scirrhous; notwithstanding the success of MM. Thuiller and Thibauld, of Limoges, (see page 453,) we regard the simultaneous existence of several cancerous tumours in different organs as being almost always a contra-indication to the operation. There is, likewise, but little to hope for, where the affection is hereditary, where general symptoms of cancerous cachexia exist, or where the female has suffered for a long time from considerable derangements of menstruation.

Though several authors assert that a relapse is a circumstance which ought always to remove all idea of a new operation, we think that the chances of a cure cannot be too carefully weighed, before

* It is in cases of this kind, no doubt, that Louis, Dessault, Assalini, Sœmmering, and some others, have successfully extirpated cancerous tumours, without removing the engorged axillary glands.

† Mémoires de l'Acad. de chirurg. t. iii. p. 18.

abandoning the patients to their unfortunate fate; for, Morgagni, Sabatier, Lacombe, L. M. Pousse, etc., have succeeded in obtaining a complete cure after a second and even a fourth operation.

*Palliative treatment.* When cancer of the breast is not, or, at least, is no longer of a nature to be operated upon, or when, the patient refusing to submit to the operation, a radical cure is no longer to be hoped for, the physician ought to seek to render the disease more bearable, and to check its progress by a palliative treatment. This treatment consists in regimen, and in the internal and external employment of various remedies. We must prescribe, with this view, a milk-diet, vegetable substances, white meats, and sedative drinks. As it is a treatment of symptoms that must be instituted, we should seek sometimes to recruit the strength by tonics and bitters, at other times we must ease the pain and oppose the nervous symptoms by narcotics and antispasmodics, administered in the form of potions, pills, enemata, etc. We should also prescribe fomentations and sedative applications, especially extract of opium, dissolved in fluid acetate of lead or incorporated with a liniment or cerate employed as a topical; and finally, the use of baths, small general bleedings, applications of leeches around the mamma, and a number of other means, which must vary according to the symptoms, and will aid in conducting the patient to the tomb as gently as possible. Happy, says M. Richerand, if they can add to the oblivion of their ills the sweet illusions of hope.

## OF ENCYSTED TUMOURS, AND OF DIFFERENT KINDS OF CHRONIC ENGORGEMENT OF THE MAMMA.

There are two kinds of encysted tumour of the breast; the one contains a serous fluid in cells which compose the tumour, the other encloses globular hydatids. In the beginning, these tumours, which grow very slowly, and which are commonly regarded as being the result of a chronic inflammation of the breast, are not painful except at the approach of the menstrual evacuations. After some time, the cyst becomes fluctuating, while the remainder of the tumour retains its primitive hardness, and we do not observe the skin covering it to change its colour, until it begins to ulcerate; it is not, indeed, until the period when the ulceration begins to take place, that the health of the patient is slightly disturbed.

These tumours, which make their appearance from the age of fifteen to sixty, without our being able to discover the cause, may be either multiple, or may present themselves in the form of a simple cyst. In either case, they are radically cured by extirpation; yet when there is a simple cyst, Sir A. Cooper* has sometimes confined himself to piercing it with a lancet, and the cure has then taken place from the adhesive and suppurative inflammation which followed this slight operation.† Finally, we shall add that though these mam-

* The Lancet, vol. ii. p. 368–370.

† We think that puncturing cannot be followed by cure except when we have to do with an acephalocyst cyst; in the serous cysts, the fluid is always reproduced after

mary cysts do not constitute diseases of a severely malignant character, they may in some cases degenerate; therefore, for this reason, and especially to quiet the patient and satisfy the mind, we should not hesitate to extirpate them, taking care not to open the cyst, which must be detached from its adhesions by a minute dissection. In case the tumour should have been opened and should have contained nothing but a serous fluid, and especially where we are not certain of having removed the whole of the cystic sac, it would be necessary to cauterize the internal surface of the wound, in order to prevent the reproduction of the disease.

Fibrous tumours developed in the mammæ resist all therapeutical means, and also require complete extirpation, by means of the knife. The same is true of a sort of movable, globular tumours, soft to the touch, less distinctly circumscribed than the scirrhous and fibrous tumours, which, like the preceding, are met with most commonly in women having all the appearances of fine health. These tumours, which are a species of lupia, rarely pass into the cancerous state, though they may become rather large, varying between the size of a pea and a large billiard-ball; they are generally indolent, and do not become painful except at the periods of menstruation.

The mammæ are also subject to other chronic ulcerations, which present more or less analogy to those we have just mentioned, and from which it is important to distinguish them, because it is not necessary to extirpate them in order to obtain a radical cure; amongst the affections of this class are: 1, engorgement resulting from disturbed menstruation; 2, engorgement of the lymphatic vessels; 3, scrofulous engorgement.

The engorgement which is observed after some disorder in the periodical discharge of the menstruæ, occurs in a portion of the breast, and is met with most frequently at the age of from fifteen to twenty-five years; the induration which results is always very painful to the touch, especially at epochs corresponding to those at which the menstruæ were in the habit of appearing. The pain in the breast is then so much augmented that it often extends from the diseased mamma to the arm, and even to the fingers of the same side. This kind of induration, which has been called *irritable tumour of the breast*, by the celebrated Sir A. Cooper, (loc. cit. p. 405,) never requires the extirpation of the breast, and *à fortiori* as it is resolved as if by enchantment, so soon as we succeed in restoring the menstrual function. We ought to say, also, that the absence of fluctuation, of febrile symptoms, of throbbing pains, and the commemorative circumstances, will always suffice to prevent our confounding this affection with an abscess of the breast.

The tumefaction of the lymphatic vessels passing from the breast to the axillary glands, commonly yields without difficulty to bitter and sudorific drinks, to narcotic fomentations, and to mercurial and iodine frictions. Finally, scrofulous tumours, which are sometimes

it has been evacuated; the extirpation of the tumour is, therefore, the only means which suits all cases.

followed by ulcers of a cancerous appearance, from which they may be readily distinguished by the absence of shooting pains, by the little sensibility, the nature of the suppuration, etc., rarely resist an anti-scrofulous regimen and treatment, especially the internal and external use of pharmaceutical preparations whose base is iodine.

We must, in order to conclude what we had to say upon engorgements of the mammæ, add that those engorgements which we observe after abscesses of these organs, are not long in being resolved under the influence of topical bleeding and an antiphlogistic treatment methodically employed. As we shall treat of abscesses of the breast in speaking of the diseases developed after parturition or during lactation, we shall not dilate any further upon the subject at present.

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# SECTION FIFTH.

## CHAPTER IX.

### LESIONS OF THE FUNCTIONS.

Of derangements of menstruation, of uterine hæmorrhages and chlorosis, and of the neuroses peculiar to women.

In health and disease, in whatever climate she may exist, and whatever may be her social condition, her physical and moral constitution, woman is under the dominion of a physiological and mysterious law, that strong and powerful law which subjects her, during a certain period of her life, to a periodical hæmorrhage from the reproductive organs. This function, termed menstruation, which keeps all the others under its empire, and which is in some sort the regulator of all the other apparatuses and systems, because of the intimate sympathies existing between the uterus and the other organs, constitutes the least equivocal sign of the health and fecundity of women. Without this discharge, says Roussel, beauty either appears not, or is lost; the order of the vital movements is destroyed; the soul falls into languor, and the body into exhaustion. Though it be true, that serious diseases have been known to pass through all their stages, without any appreciable disorder resulting as to the periodical discharge, it most commonly happens that menstruation is notably disturbed when the health undergoes any alteration, and we observe derangements of the function to influence the exercise of all the others, and add its morbid influence to those which already exist.

[As M. Colombat appears to have omitted nearly all reference, in his pages, to the now received and approved doctrines on the causes of menstruation, and its diseases, I shall take advantage of this page to enter a few additional observations, which I consider as a necessary introduction to what he has here written on the subject, though I have already said something on the

subject at p. 25 of this work. I look upon the modern theory as a most important one, and if that doctrine should become regarded by my brethren here as well established, I shall rejoice to have called their attention to it; since I conceive, that well-founded notions of the physiology of the functions are essential to any competent views of their pathological states, or their therapeutical requirements or indications.

It appears to me, that under the ancient theories, or rather hypotheses, on the catamenia, no sound practical views could ever be acquired, although it is true to say, that the lapse of ages had left in the hands of the profession a variety of remedies and indications, the use of which was rather empirical than philosophical, rather customary than useful, and which, though the best that could be commanded, were for the most part found to be incompetent, uncertain and baffling, as confessed, indeed, by the celebrated Cullen, at the conclusion of his Essay on Emmenagogues, in his work on the Materia Medica.

Happily, at the present day, we are better informed upon the nature and causes of the mensual phenomena, both in health and disease; and in so far, at least, better prepared to fulfil our duty to the patient.

De Graaff's discovery of the ovarian vesicle rested without therapeutical profit, until Purkinje, by the invention, in the unimpregnated yolk, of the vesicle named after him, laid the foundation, in 1825, for the subsequent revelations as to the nature of the real ovum, by MM. Coste, Wagner, Schwann, Wharton, Jones, Barry, Bischoff, and the other micrographers, who have thrown so much light on the subject within the last ten or fifteen years.

The result of these beautiful investigations has been the discovery of a physiological law of the sex, under which the embryonic germ is found to be developed, and brought to perfection at *stated intervals*, corresponding nearly with the revolution of the lunar period of twenty-eight days each; one ovum being ripened every month.

The yolk that bears the germ, in all the mammals, is contained within the Graafian vesicle, and it may readily be found, with a good lens, in the drop, or drops of liquid that escape from a ripe vesicle, upon puncturing it with a lancet, or crushing it under the compresser of a microscope.

The substance of the ovary, or its *stroma*, is found to contain a vast multitude of small points, disseminated within its structure. Each of these points, discoverable only by the aid of a microscope, is supposed to be a rudimental germ, ready to commence its work of development whenever the proper time may arrive, in its series or turn; and it proceeds in that work by such degrees, that at least one such will be brought to full and complete maturity, as before said, once a month, as long as the menstrual age lasts, and while the woman enjoys good health. Now, as the microscopic ovum is contained within a double capsule, called the Graafian vesicle, it happens that the containing vesicle expands, and grows with great rapidity during the latter part of the process; it continues to rise from the central or internal parts

of the ovary towards the surface, distends the stroma, puts the tunica albuginea on the stretch, and finally bursts outwards, discharging its fluid, and the ovum in that fluid, with its accompanying retinacula, or granular matter, into the cavity of the belly, or in case of impregnation, into the fimbria of the Fallopian tube, by which it is conducted to and lodged in the womb, to constitute the ovum of a gravid uterus. Now, it clearly appears, from the showing of Robert Lee, of London, M. Negrier, of Angers, M. Gendrin, of Paris, and M. Raciborski, of the same city, and many others—I have seen it with my own eyes—that if a woman die in menstruating, or soon afterwards, there is found on the surface of the ovary a bloody and ragged opening, leading into a small pit or crypt, in which is frequently found a small clot of blood, and which crypt once contained the fluid, the granules and the ovum of the now broken Graafian vesicle. It also appears, that where the rupture has recently taken place, the entire ovary is found reddened and turgid from the hyperæmia induced in it by the development of the vesicle, just as the gum of a young child, over a large jaw tooth, is found to be reddened and engorged from a hyperæmic irritation, arising from the pressure of the still uncut tooth.

Different observers report, that they have found the ovary of the same side, the Fallopian tube, and the uterus, of a bright red colour in patients dying suddenly during their menstruation, and they declare it to be an invariable rule to find the evidences of a recent rupture in all such persons, while the numerous pits, depressions and cicatriculæ to be noticed upon the surface of every ovary of females, between fifteen and forty-five years of age, are regarded as the vestigia of these periodical stated developments and burstings of the Graafian vesicle, while in every case of the pregnant female, or the gravid mammal, examined after death, the cicatricula of the ruptured Graafian vesicle may be confidently looked for on one or the other of the two ovaries. So firmly does Mr. Raciborski seem to regard this doctrine as established, that he calls it a regular *pônte* or *laying process*, whose appearances and laws, as far as ascertained, he has published in his recent work, *De la Puberté*, *&c. &c.*

It is not necessary, nor proper for me in this place, to enter fully upon the discussion of the doctrine set forth on this matter by M. Negrier, in his work; nor of M. Gendrin, in his *Philos. Pract.;* nor of Dr. Lee, in his midwifery; nor of M. Raciborski in his volume; I must be content merely to indicate those works and recommend them very warmly to the reader. In those works he will find that the ridiculous notions on local plethora without cause—on general plethora without cause, and on lunar influence, as the proximate cause of the strange and hitherto mysterious phenomena, are all exploded, and that, inasmuch as the ovaries, by their constitution, are liable to the hyperæmic affluxion, as coincident with the stated, periodical, monthly completion of a Graafian vesicle, which hyperæmia relieves itself by the menstrual discharge, we possess in that law the key to all the derangements of the catamenial office, not dependent upon some obturation,

or some sudden shock and diversion of the nervous power to other directions; in short, we have the means in our hands of explaining the non-appearance of the menses at the age proper for their eruption—their postponement or anticipation in different women, and their protracted duration in some women, even to fifty or sixty years, or more. The change of life, occurring at thirty or thirty-five years, instead of the legitimate time of forty-five years, is also explained. This doctrine, too, teaches us the importance of so providing for the health of young girls, as to enable them to come up to the puberic age, in a condition fitting them to assume this great office and its after responsibilities, while it directs our therapeutical intervention into the only true path, that of the physiological functions. It is to be believed, that if menstruation is caused by the regular, periodical, stated production and rupture of a Graafian vesicle, the means of treating the disorders of menstruation must be such as are directed to the promotion of such vesicular development, called by Negrier, *le travail vésiculaire*, and *travail ovarique*.

There is reason to believe that in all the mammalia, birds, fishes, insects, and probably in all the vegetable tribes, the development of germs is a stated periodical operation; and there is little difficulty in conceiving that this may be the case, if we reflect upon the numerous instances of periodicity, observed in all the varied functions of life.

Having premised these remarks, in which I re-state some of the points set forth at p. 25, I leave to the reader to appreciate M. Colombat's opinions on the menstrual affections, here following.—M.]

Menstruation, in order to be truly effectuated, requires, like most of the secretory functions, two principal and distinct actions, which are the exhalation of the menstrual fluid, and its excretion to the exterior. When one or the other of these actions cannot occur, or is but imperfectly accomplished, there result absence, suppression, diminution, or deviation of the menstruæ, and all the modifications of menstruation, which can be comprised in two principal classes, which are, *amenorrhœa*, or failure of the menstrual discharge, and *hypermenorrhœa*, or excess of the same discharge.

These two principal heads, of all the lesions of menstruation, present divisions which may be distinguished in the following manner:

The first class comprehends: 1, *menaphania*,* or non-appearance of the first menstruæ; 2, *dysmenophania*,† or difficult establishment of the first menstruation; 3, *menostasis*,‡ or amenorrhœa from retention; 4, *amenorrhœa*, properly so called, or suppression of the menstruæ; 5, *dysmenorrhœa*, or incomplete and painful discharge of the menstrual fluid; 6, *menometastasis*,§ or deviation of the menstruæ; 7, *menopausis*,‖ or the cessation of the discharge at the critical period.

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* From the Greek μὴν, μηνος, *month; a privative*, and φανεια, *appearance;* from φαινα, *I appear.*

† From δυς, *with difficulty;* μην, μηνος, *month;* and φανεια, *appearance.*

‡ From μηνος and στασις, *stagnation, retention.*

§ From μηνος and μεταστασις, *displacement.*

‖ From μηνος and παῦσις, *cessation.*

The second class, or *hypermenorrhœa*, includes *menorrhagia* and the different sanguine discharges from the uterus.

The menstrual disorders that we have now enumerated, instead of forming diseases always distinct, are commonly, like other functional disturbances, nothing more than symptoms, or groups of symptoms resulting from a crowd of latent affections, from different sympathetic reactions, or from some organic alteration which is almost always discoverable by an attentive examination.

Though the more or less complete absence or suppression of the menstruæ, present very evident differences in relation to the etiology, prognosis and treatment of such disorders, we deem it right to study these various derangements of menstruation collectively, and to comprise them under the general term of *amenorrhœa*, reserving to ourselves, however, the power of separating them in the research after the causes which give rise to them, and in the curative indications which suit each more particularly. In this way, we shall avoid the repetitions and long details arising from divisions unnecessarily multiplied.

## OF AMENORRHŒA.

Amenorrhœa, which, in its widest acceptation, embraces all cases in which there is failure in the menstruæ, ought to be divided into primitive and consecutive. Primitive amenorrhœa, comprising the non-appearance of the function, at the epoch of puberty, and consecutive amenorrhœa, which means their accidental and more or less complete suppression after menstruation has been already established, may depend upon a general condition of the constitution, upon a physical or vital lesion of the uterus, and, lastly, upon the sympathetic reaction of some of the viscera contained in the splanchnic cavities. By founding on these three principal origins of menstrual derangements, we have *constitutional amenorrhœa*, *sympathetic amenorrhœa*, and *amenorrhœa from a local cause.*

The *causes* of primitive constitutional amenorrhœa are predisponent and occasional. Among the former are included, 1, the sanguine temperament, which is manifested by a plethoric condition and by excessive fulness of the vessels, determining local congestions in different organs, and, in that way, promoting the suppression or diminution of that of which the uterus ought to be the seat; 2, the lymphatic temperament, characterized by a condition of general debility and by a want of activity in the circulatory system, ought likewise to be ranked amongst the predisponent causes of both primitive and consecutive amenorrhœa. Indeed, do we not daily see that girls of a lymphatic constitution, especially those exhibiting symptoms of scrofulous disease, are regulated later, and with more difficulty, than others? Is it not known, also, that women already regulated, who are placed in similar conditions, find their menstrual discharges diminishing little by little, or becoming entirely suppressed; the periods of return becoming more and more distant; the retardations constantly more prolonged, until at last a complete amenorrhœa is established?

The general debility which is so often the cause and the attendant of amenorrhœa, does not always derive its origin in the primitive constitution of the female; it is often the unfortunate consequence of a number of debilitating causes, such as living in a low, humid situation, deprived of the light of the sun; aliment of a bad quality; warm, watery drinks; insufficient nourishment; want of exercise, or the fatigue produced by labour beyond the strength; tedious diseases and convalescence; the abuse of sanguine evacuations; habitual leucorrhœa,* disappointment, and all the depressing passions, and, finally, all the causes which impoverish the blood and render it incapable of imparting to the organs the energy indispensable for the full exercise of the functions. If the contrary excess, that is to say, the state of plethora, produces an analogous effect, it is because the blood, too rich in fibrine, forms an obstacle to itself and itself opposes the periodical exhalation which constitutes menstruation.

We agree with MM. Roche and Sanson,† Désormeaux and Paul Dubois,‡ Louis Delaberge and Monneret,§ that too great an influence has been falsely attributed to the nervous temperament in the development of amenorrhœa. Indeed, observation proves that women in whom the nervous temperament predominates, are regulated both sooner and more copiously than others; and that all the causes which exalt this temperament, such as powerful passions, the culture of the arts, erotic studies, precocious or too often repeated enjoyments, and, finally, excitants of all kinds, far from causing suppression of the menstruæ, do but precipitate the age of puberty and increase the menstruation. Besides, is it not known, as remarked in their excellent *compendium*, (loc. cit.) by MM. L. Delaberge and Monneret, that in warm climates, where women are commonly endowed with a nervous constitution carried to its maximum, menstruation is very early, very active, and rarely deranged? Beyond a doubt, the nervous temperament was to be looked upon as a predisposing cause of the affection which engages us, because it is not uncommon in hysterical and epileptic women, etc.; this error would certainly have been avoided, and the effects of amenorrhœa would not have been mistaken for the cause of this morbid phenomenon, if it had been remarked that the menstrual flux may be suspended by all sorts of chronic, inflammatory and nervous affections, and that very often, a crowd of neuroses and neuralgias show themselves for the first time, only when the menstruæ are suppressed. Finally, chlorosis and anemia have been properly ranked amongst the predisponent causes of constitutional amenorrhœa.

*The exciting causes* of constitutional amenorrhœa, are no other

* Our young fellow-practitioner and friend, Dr. Marc d'Espine, of Geneva, says, in a memoir inserted in the *Archives générales de médecine*, for the year 1835, that of eighty women observed at Paris, twenty-seven only had never had fluor-albus; he adds that of the fifty-three others, twenty-six had it before puberty, eighteen during that epoch, and nine only after that physiological revolution.

† Nouveaux éléments de pathologie, t. ii. p. 492.

‡ Dict. de Médecine, t. ii. part. aménorrhée, 2d ed.

§ Compendium de Méd. Prat., t. i. p. 57, 1836.

than the predisposing causes we have just enumerated, and which, from having lasted longer, or having progressively reached a higher degree of intensity, may produce a more or less complete amenorrhœa, which then constitutes a case most obstinate, most rebellious, and most fruitful in accidents.

The *causes* both of primitive and consecutive *sympathetic* amenorrhœa, ought to be referred to three principal heads, to wit: the *moral*, *physical* and *symptomatic causes* of some visceral disorder, or one dependent upon an acute irritation of any part of the economy.

Amongst the *moral causes*, should be ranked the vivid emotions of the soul, as anger, disappointed love, celibacy, despair, jealousy, immoderate joy, profound depression, the sudden reception of bad news, a sudden fright,* extreme fear, or a sudden disappointment. A tuberculous female in the wards of M. Rostan, had her monthlies suddenly suppressed on learning that the application of a seton to the parietes of the thorax had been prescribed for her.† We might cite a large number of cases of the same kind, of the sympathetic influence of the nervous system and of the brain in particular, were they not already so generally acknowledged.

The *physical causes* that may still more suddenly arrest the menstrual discharge, are: sudden exposure to cold and damp air, the immersion of the feet or hands in cold water, cold ablutions of the sexual organs, sitting upon the grass, on the ground, or on a stone-bench; the ingestion of ices, of sherbets, and of very cold drinks, and especially when taken while the body is in a state of perspiration; a violent bleeding; the application of a large blister, of cups, etc.; a wound, a burn, a hæmorrhage; the employment of purgatives, of emetics, or of cinchona in large doses; the action of strong odours, particularly, according to Haller's assertion, the herb penny-royal; and, finally, all circumstances capable of suddenly drawing in other directions than towards the uterus, the blood which ought to be exhaled by that organ at this period.

Amongst the causes of sympathetic amenorrhœa, we should also include phthisis pulmonalis, hypertrophy of the heart, the different dropsies, scrofulous and tuberculous affections, softening of the bones, the acute and chronic inflammations of the skin, of the stomach, the pleuræ, the lungs, the liver, the spleen, the peritoneum, the brain and its membranes, the spinal marrow, and all the visceral irritations which retain the blood and prevent it from being directed upon the uterus. Finally, the sudden suppression of the perspiration, or a

* From the report of Baudelocque, (loco citato,) sixty-two women were attacked with hæmorrhage or suppressions upon the occasion of the explosion of the powder-magazine of Grenelle. M. Husson has also collected the case of a woman who, at several different times, was attacked with menstrual suppressions, under the influence of claps of thunder. We ourselves observed, in July, 1830, that the reports arising from the platoon firing and cannon-shot, produced the same effect in several women, amongst others in a young person eighteen years old.

† Some months since, one of our relations, whose menstruation is ordinarily very regular and abundant, was attacked with a sudden suppression, in consequence of a frightful dream, a kind of night-mare.

considerable augmentation of this or of any other secretion,* may also determine the non-appearance, the suppression or diminution of the menstruæ.

The *causes of amenorrhœa that are dependent upon a local condition of the genital organs*, ought likewise to be referred to three principal heads, to wit: vital lesions, lesions of situation, and lesions of form and development of the uterus and its appendages.

Amongst the causes depending upon vital lesions of the sexual organs, we ought to mention acute and chronic inflammation, induration, the different engorgements, ulceration, excessive sensibility, and the state of anemia of the gestative organ, and of the ovaries; and, finally, the presence of false membranes; physometra, hydrometra, and uterine hydatids, also produce suppression of the menstruæ.

The *causes depending on lesions of situation* are, anteversions, retroversions, flexions and incomplete prolapsus of the womb. Though these different displacements do not prevent the exhalation of the menstrual fluid, they often constitute temporary obstacles to its excretion, because the os tincæ being strongly pressed against the sacrum or pubis, there results from this a more or less complete closure of the uterine orifice. Finally, amongst *the causes depending on lesions of form and of development*, we range the absence, atrophy, and failure of development of the uterus and ovaries, of which we have given examples at pages 76, 88 and 118; imperforation of the os tincæ and of the hymen; obliteration of the vagina and of the mouth of the uterus; primitive or accidental agglutination of the labia majora, and of the walls of the vagina; and, lastly, the different kinds of atresia of the sexual cavities, of which we treated at pages 74 and 119, should, likewise, be included amongst those local lesions, which may prevent the exhalation, or more commonly the excretion of the menstruæ. We add that it is often impossible to discover the cause of the non-appearance, or of the consecutive suppression of the menstruation.

The *symptoms of amenorrhœa*, which vary according to the causes of the disease, ought to be divided into two series. To the first belong the local symptoms, such as pains and dragging sensation in the lumbar region, and a sense of weight in the pelvis, and especially behind the pubis. Amenorrhœa, owing to engorgement of the womb, comes on with a sensation of a somewhat acute local sensibility, which often inclines women to onanism, and especially makes them desire coïtus even when it is very painful to them. If the non-appearance of the menstruation depends upon a congenital fault of conformation, which, moreover, does not manifest itself until the epoch of puberty, the menstrual blood is accumulated in the vagina or in the uterus, and forms above the obstacle a tumour, whose most marked character is that of increasing periodically each month, that

* This is the reason, no doubt, that professional *danseuses* are usually scarcely ever well regulated, as well as all those women, who, from their condition of life, give themselves up to fatiguing labours, which provoke in them abundant and almost constant sweats. Moreover, is it not known that lactation, diabetes, and all the dropsical diseases almost invariably lead to suppression of the menstruation?

is to say, at the epochs when the menstruæ ought to be excreted, and then of remaining stationary during the intervals between the sanguine exhalations. In cases where the retention is due to an accidental imperforation or obliteration of the mouth of the uterus, the tumour, or rather the distended uterus appears first on a level with the pubis, and then rising gradually from the hypogastrium to the umbilicus, it simulates pregnancy the more closely, inasmuch as it exhibits most of the sympathetic phenomena, and particularly the swelling of the mammæ. If the obstacle is situated at the orifice of the vulva, and it be, for example, an imperforate hymen, that membrane, pressed forwards by the blood accumulated in the vagina, forms between the labia majora, a hemispherical, livid or bluish, soft and fluctuating tumour, becoming more prominent when the female is erect. (See our remarks upon this matter, pp. 79 and 89.) In most cases, the exploration of the genital parts, and especially the examination per vaginam, per rectum, and by the hypogastrium, suffice to reveal the nature and seat of the obstacle, and to establish a positive diagnosis. We shall add that the pressure of the tumour on the sciatic nerves, the sacral plexus, the rectum and the bladder, often determines engorgement, cramps and numbness of the inferior extremities, and troublesome weight in the pelvis, and sometimes even difficulty and frequency in the expulsion of the urine and fæcal matters. (For fuller details, see p. 89 et seq.)

Where the symptoms we have just pointed out appear for the first time, and especially where they are not followed by symptoms too serious, it would be prudent to wait for another menstrual period; for it frequently happens that the sanguine exhalation does not establish itself completely, or fails to reappear after being suppressed, until the second or third term, or even until a more distant period; nevertheless, if a real condition of disease should result from the amenorrhœa, it would be important to convince ourselves, as early as possible, whether the organs of generation and the pelvic cavity are properly developed, and, finally, whether the enlargement and sensibility of the mammæ, as well as all the local symptoms of menstruation, appear at regular epochs.

The *general symptoms or sympathetic signs*, which are often the only ones that announce primitive *menaphania*, or the accidental suppression of the monthlies, vary by their nature, their modifications, their obstinacy and their termination, according to a great number of individual circumstances, such as age, temperament, ordinary disposition, education, and the kind of life more or less contrary to the laws of hygiene. Thus, the young woman, heretofore brilliant with freshness, strength and health, suddenly sees her features assume the impress of feebleness, depression and languor; the roses upon her countenance fade; the fire of her eyes is extinguished, and a dark areola surrounds them; finally, the most frequent symptoms are habitual cephalalgia, dyspnœa, dizziness, oppression, pains in the limbs, especially at the joints, and an excessive susceptibility, which changes her character and renders it impatient and irascible.

The moral alteration is not less considerable than the physical.* The ideas become sad, the imagination is sombre; sometimes, the exaggerated sensibility causes the patient to seek for solitude, and shed causeless tears; sometimes, on the contrary, she becomes passionately fond of music, theatres and amusements of all kinds.

Though there be a small number of women, never having been regulated, who seem to enjoy moderately good health, the great majority of those who are in this condition, suffer at periodical epochs from most of the symptoms that we have just enumerated, and then, without any menstrual discharge making its appearance, calm returns, and both the general and local symptoms are partially dissipated, until another epoch arrives which occurs every month. Other women reach a certain age without suffering any periodical indispositions, but their health is habitually deranged; they are subject to leucorrhœal discharges, to cholic, to diarrhœa, palpitations, and headaches; their tissues are soft, flaccid and colourless, and, finally, every thing about them bears the marks of langour and suffering. They are fortunate, if to all these general symptoms are not added cutaneous affections, vicarious hæmorrhages, chlorosis, infiltration of the cellular tissue, ascites, and a crowd of neuroses, such as hysteria nymphomania, epilepsy, mania, convulsions, chorea and the whole train of nervous diseases.

Women, who have never been regulated, and who enjoy, nevertheless, perfect health, are generally more or less unendowed with the attributes of their sex; in them, the breasts, the womb, and the ovaries, are scarcely developed, and may be entirely absent. Their physical constitution, as well as their moral life, approximates to that of the male, whose form, strength, courage, taste, inclinations, passions, etc., they most commonly represent.† Baudelocque, (*Art. des accouch.*, t. i., p. 183,) speaks of a woman who was destitute of an uterus; she loved the chase, horses, arms; she cultivated belles-lettres, and had never felt any thing which revealed a retention of the menstrual blood, nor even the want of this evacuation. She was married, and fulfilled, but very imperfectly, the duties of a wife, and without caring for its sweets.

Amenorrhœa depending upon disease of some viscus, may appear at the commencement of such disease, or at a rather advanced period of it; and, though it is impossible to state any thing positively upon this point, we may say, generally, that the menstrual derangement declares itself the sooner in proportion to the degree of sympathy between the disordered organs and the uterus; for example, when the

* According to M. Broussais, (Cours de Pathologie, tom. ii. p 230,) this is explained anatomically by the intimate relations of the uterus with the spinal marrow, and consequently with the portions of the brain devoted to the affective passions; as has been demonstrated by M. Ollivier d'Angers, in his treatise on diseases of the medulla spinalis.

† Might we not ask, whether those heroines, whose lofty deeds we admire in history, and who differed so wonderfully from other persons of their own sex, whether those heroines, we repeat, who lived only in combats and camps, were not deprived of uterus and ovaries, or whether, at least, those organs had not remained in the inertia in which they are naturally plunged during the early years of life?

stomach, the brain, or the heart, is affected, the amenorrhœa comes on at a very early period, whilst in phthisis pulmonalis, the complete suspension of the menstruæ does not occur until the stage when the tubercles begin to soften. We may state, furthermore, that the plethoric and nervous constitutions exert a marked influence upon the symptomatic or sympathetic suppressions of menstruation, which often coincide in persons who present the individual conditions we have just mentioned, with inflammation of a viscus or some membranous organ.

Before concluding what we have to say upon the symptoms of amenorrhœa, we shall state, that when accidental, and especially where the suppression has been sudden, the woman immediately feels a sensation of heat, weight and pain in the pelvis; more or less violent uterine colic, and a disagreeable tension in the inguinal and lumbar regions, and the upper part of the thighs; finally, there are added to these symptoms, enlargement of the abdomen and mammæ; an indescribable feeling of malaise and lassitude; extreme loathing, nausea, vomiting, headache, vertigo, tinnitus aurium, oppression, frequent palpitations, and, in many, a burning pain, during the expulsion of urine. Independently of all these symptoms, which are peculiar almost to the sanguine temperament, we often see arise, when the suppression is of no recent date, chronic affections, such as chlorosis, leucorrhœa, metritis, engorgements, scirrhus, and cancer of the uterus. We call attention, also, to the fact, that amenorrhœa symptomatic of some other disease, especially that which has come on slowly and progressively, sometimes aggravates the disease upon which it depends, whilst, under other circumstances, it is favourable to it. It is useless to say, that in the former case it ought to be treated, while in the latter we should let it alone.

Among the most curious phenomena following suppression of the menses, should be ranked the hæmorrhages and other vicarious evacuations, of which a more singular example cannot be found than that related by Gardien, (*Traité d'Accouch.*, t. i.,) and observed at the hospital La Salpétrière, in a girl who, after suppression of the menses, had a periodical sanguine discharge: 1, during six months, from small ulcers in the legs; 2, for a year, from ulcers on the arms; 3, for six months, from the opening of a paronychia of the left thumb; 4, for two years, from ulcers at the angle of the eye, consequences of an erysipelas of the face; 5, for five months, from the umbilicus where another erysipelas had made its appearance; 6, for four months, from the internal malleolus of the left foot; 7, and finally, for two months, from the left ear. When the blood ceased to flow from a fixed point, there occurred attacks of epistaxis and hæmoptysis, preceded by convulsions, headaches, and dizziness. Doctor Chatelain, of Nancy, in his thesis, (*Essai sur la menstruation*, 1827,) speaks of a prostitute seen by M. Bonfils, at the Magdalen Society of that city, who, in consequence of derangement of menstruation, had sanguine discharges successively from the arm-pit, the nipple, the left flank, the back, the epigastrium, and the thigh. M. Chatelain, likewise, cites a case observed by M. Bégin, concerning a young person, whose

left index-finger, in consequence of amenorrhœa, swelled, and was covered by an acute herpetic eruption from the surface of which flowed several drops of blood, at a certain period of every month. The herpes and the discharge, which lasted only three or four days, were accompanied by a disagreeable pruritus. It was not until three years later that the womb returned to its regular functions, and the health of the patient was completely re-established.

The point at which the vicarious hæmorrhage takes place, generally varies according to the age of the female; during youth, it is from the nose and chest; later in life, from the hæmorrhoidal vessels, the stomach and the bladder. According to Stahl, (*de mensium insolit. viis*,) an indigestion or a pulmonary catarrh occurring during menstruation, suffices to provoke the afflux of blood towards these digestive and respiratory organs. Yet, though epistaxis, hæmatemesis, hæmoptysis and hæmaturia, may be the most frequent of these hæmorrhages, we could cite other examples of these menstrual deviations taking place from other fixed points of the economy. Baudouin Ronssæus (*Opuscul. med. de morb. mulier.*,) states that a woman having had a molar tooth extracted, had a suppression, and that a discharge of blood, which was renewed every month, was established from the alveolus of this tooth. Raymond speaks of an unmarried woman who, at the age of forty-eight, had a slight hæmorrhage once a month from the alveolus of a tooth which she had lost. The same author adds, that the discharge of blood, which lasted three days, was about three ounces per diem. J. N. Pechlin, (*Observ. physic. med.*, lib. iii.,) relates a case of menstrual hæmorrhage, which took place from an ulcer on the foot. Théod. Kerckring, (*Spicelegium anat. cont. observ. anat. rar.*,) cites the case of a girl who was periodically regulated from a wound in the right hand. Louis Mercatus, (*de morb. mulier.* lib. iv.,) mentions a woman that was not regulated, whose cheeks became of a very deep red colour every month. Finally, to the long enumeration of menstrual irregularities, reported by Haller, (*Element. physiol. corp. human.*,) Freind, (*Emmenol*, cap. viii.,) and Royer Collard, (*Essai sur l'amenorrhée*, p. 28,) we will add that Baudelocque, (*Traité des accouch.*) who was acquainted with a woman forty-five years old, who had never been regulated, and who was subject, during three days of every month, to a diarrhœa. M. Bréra, (*Essai clinique sur l'iode*,) mentions a woman who, in consequence of a menstrual suppression, was subject every month, for two years, to a dysenteric flux, which lasted five or six days; we will add, also, that we saw a similar case in a female, who was in the wards of Fouquier, in 1830.

The *diagnosis* of amenorrhœa is not always easy to establish. Therefore, we think that a physician, in such cases, should use the greatest reserve, and behave with the utmost prudence and circumspection, in order to avoid mistakes, and especially the snares which might be tendered him. In effect, may it not happen that young girls and widows, interested to conceal their pregnancy, shall seek, with criminal intentions, to deceive their physician as to their real condition, in the hope that the remedies, and especially the bleedings

which might be ordered for suppression of the menses, shall lead to the criminal end they seek to attain. Besides, may not women, involuntarily, deceive themselves as to their condition of pregnancy, and suppose that they merely labour under a suppression attributable to some accidental cause. Is it not, also, true, that women, aware of the arrival of the critical age, by the cessation of the menstrual discharge, seek, by remedies not always unattended with danger, to prolong the marks of a youthfulness which has passed away, by recalling the signs of a fecundity which no longer exist? To administer remedies in such cases without any precaution, would be to expose ourselves on the one hand to the danger of inducing abortion, and on the other of determining dangerous hæmorrhages and inflammations, which may be followed by the most serious consequences. To avoid unhappy mistakes, and the snares held out by the fear of dishonour and the desire of concealing the ravages of years, the physician who feels any uncertainty, should endeavour to temporize, as much as possible, until he can discover the true cause of the suppression, and confine himself to a grave prescription of insignificant remedies, especially in cases where the health no longer requires any therapeutical intervention. This conduct seems the more rational, as there are no positive signs of commencing pregnancy, and as, after the fifth month, ballottement, the spontaneous movements of the fœtus, and the use of the stethoscope, permit us no longer to doubt on this point.

Supposing, that by a series of questions adroitly asked, we have succeeded in convincing ourselves of the good faith of the patient, who might be, moreover, by her social position and known morality, above all suspicion, the first thing to seek after, would be to discover whether the uterus were primarily or sympathetically affected. By the exploration of the sexual organs, we could always recognize the local lesions that might give rise to amenorrhœa depending on this cause; we ought particularly to insist upon this means of diagnosis before commencing any treatment, provided the suppression, already of long standing, have resisted the ordinary remedies. Nevertheless, we ought, as M. Lisfranc* directs, to be careful in the case of the virgin young girl, and rest contented with examining merely by the rectum, the vagina, and the uterus.

Should the amenorrhœa co-exist with any lesion whatsoever of some other organ, we should try to discover whether that organ is affected primarily and reacts sympathetically on the uterus, or whether, on the contrary, it is a morbid condition of this latter viscus that reflects its unhealthy influence on a part or the whole of the economy. The origin of the disease may generally be detected by carefully studying the temperament and constitution of the woman, as well as the modifications and sequence of the symptoms. We must acknowledge, however, that there are some very embarrassing cases, in which we can discover neither any lesion nor any cause to clear up the diagnosis.

* Bulletin clinique, par MM. Piorry, Rameaux, L'héritier, Thibert, No. 5, 1 September, 1835, and compendium de méd. pratiq. de MM. Delaberge et Monneret, t. i. p. 62, 1836.

The *prognosis* of amenorrhœa must necessarily vary according to the causes which have produced it, according to its duration and the severity of the accompanying symptoms. Amenorrhœa connected with a plethoric constitution is not always complicated with serious symptoms; often, indeed, is it accompanied by mild ones, which are usually readily controlled; nevertheless, a strongly marked plethoric condition may give birth to acute inflammations, which sometimes resist the most energetic treatment, but which always cease upon the appearance of the menses. When the non-appearance or suppression of the menses is the result of constitutional debility, the progress of the disease is slow, and it assumes a character of languor and inertia, which forms an obstacle to the cure, which is always obtained with greater difficulty than when the disease depends upon a generally plethoric condition. Amenorrhœa, in the year following the first menstrual irruption, at the age of puberty, is not of much consequence, and is scarcely ever due to a seriously morbid state of the uterus. That which attacks suddenly, occasions inflammatory symptoms, which, for the most part, are readily controlled as no doubt rests upon the diagnosis. It even happens, sometimes, that the menses appear at the next epoch, and that this indisposition, which women call *rétard*, yields to simple remedies or to the powers of nature alone. In these cases menstruation often returns with such violence as to constitute a real hæmorrhage.

The prognosis of amenorrhœa from a local disease, must always depend upon the nature of the lesion which has produced it. It is most troublesome, generally, when the menstrual suppression depends upon a simple chronic engorgement, or upon chronic induration o the neck or body of the gestative organ. If sanguine congestion has induced the amenorrhœa, and the physician recognizes the nature of the disease, it is very rare for him to be unable to apply a prompt remedy, unless, indeed, the engorgement be the first stage of some degeneration of the uterus.

It becomes necessary to pay the strictest attention to the case, where the suppression is of long standing, even though the patient has not suffered from any serious disorder. Although it is very difficult to ascertain what organ was primarily affected in such a case, and, consequently, to establish the basis of a rational treatment, that end may often be attained by studying all the commemorative symptoms, and carefully comparing them with those that actually exist. The older the amenorrhœa, the more difficult is it to overcome it by therapeutical agents: one that has lasted for several years, offers but slight chances of cure; and it is well known that the father of Medicine gave a still more unfavourable prognosis, which, however, is not supported by experience, when he said, (*De morb. mulier.*): "*Sexto mense insanabilis morbus redditur, qui antea curari proterat.*" Women have been known to become habituated sometimes to the loss of the menstrual discharge, and to suffer no consequent inconvenience. In cases of that kind, we ought not to fatigue the patient by useless treatment, but be contented with preventing and combating any symptoms which may arise. In certain cases, where

the most rational treatment has failed, the return of the menses has followed pregnancy. As to the prognosis to be made in amenorrhœa depending on disease of some important viscus, we shall rest satisfied with saying, that it is altogether subordinate to the nature of the disease; if the suppression be connected with phthisis pulmonalis, or any other profound disorganization, the chances of recovery are the same as those of the primary diseases. As we should be compelled, in order to offer any positive statements on this point, to pass in review the whole nosological catalogue, we shall be content with stating that the prognosis varies according to the importance of the organ primarily or secondarily affected, and according to the more or less favourable general circumstances in which the patient may be placed.

The prognosis of amenorrhæa from non-excretion is not generally unfavourable, because both the vicious disposition and the obstacle which prevent the escape of the menstruæ may commonly be corrected. The cure, however, is difficult to obtain where the occlusion is deeply situated, and especially when it depends on a more or less extensive adhesion of the walls of the vagina or uterus. Rupture of the Fallopian tubes has been proved to occur in cases of this kind from the accumulation of blood: it is useless to add that the effusion of the fluid into the abdomen has always produced, as its inevitable and almost immediate cause, the death of the patient. In fine, we conclude by saying that we should never interfere with the vicarious hæmorrhages and other discharges, which, to a certain extent, are the substitutes of the menses, and that we cannot be too watchful of the function in a delicate girl, whose limbs are slight, whose chest is contracted, and whose constitution is predisposed to tuberculous affections.

The *treatment* of amenorrhœa must be regulated according to the physical and moral circumstances and causes which have brought on or that keep up the disease.

When the amenorrhœa is simple, and occurs in a girl of a depraved constitution, with a predominance of the lymphatic system, we should direct a prolonged insolation, a fresh and dry air, especially in a mountainous country, the use of nourishing food, principally rich soups and roast meats, largely supplied with ozmazome and fibrine. For drink we may prescribe the old and tonic Burgundy wines, or the Bordeaux and Rhenish, mixed with the mineral waters of Forges, of Passy, of Provins, of Rouen, of Bussang, of Spa, of Bussiares,* and the various ferruginous waters. It will be well, likewise, to make use of bitter and gently excitant drinks, of dry frictions, flannel next to the skin, and, finally, of cold river-baths, of swimming, exercise on foot

* Bussiares is a village situated in the department de l'Aisne, three leagues from Chateau-Thierry, and twenty-one from Paris. Its waters, the principal sources of which belong to M. Villacrosse, and of which M. Corriol, a distinguished pharmaceutist of Paris, has lately made an excellent analysis, are situated in a charming spot, where one breathes the purest air. For this last reason, they are preferable, when taken on the spot, to most of the other ferruginous springs, which, almost without exception, are in damp, unhealthy and marshy districts. We have had it in our power, as well as Dr. Eydoux, to witness, on several occasions, the happy effects of the waters of Bossiares, in cases of amenorrhœa, chlorosis, and dropsy, etc.

and in a carriage, riding on horseback, living in the country, moderate exercise, the games of battledore, the jumping-rope, the hoop, running, and particularly dancing, are also powerful means of cure, which ought not to be neglected, and which women seldom object to putting in practice. We should also endeavour to remove the melancholy of our patients by relieving, as much as possible, their vexations and moral disorders, which are often the chief causes of the debility of their constitutions. It is to the persuasive eloquence of friendship that we must trust for the restoration of that calm and peace of mind, without which all other means will remain without fruit.

Though a hygieinic treatment is sufficient, in some simple cases, to remove amenorrhœa depending upon general debility of the constition, it is in most cases necessary, at the same time, to resort to tonic medicines, whose action influences all the different systems, and especially that of the circulation. Among the therapeutical agents of this nature, we would place in the first rank iron and its various preparations, as the filings, the oxides, the tartrates, and the carbonates of this metal, employed alone, or combined with the bitter powders and extracts, with Castile soap, cream of tartar, or some salt of potash, etc. We ought, however, to remark, that of all the ferruginous salts ,the subcarbonate is the one whose efficacy in overcoming primitive or consecutive amenorrhœa depending upon constitutional debility, is most generally recognized. This remedy, which is prescribed in graduated doses, from a few grains up to two or three drachms daily, gives tone to the whole economy, improves the hæmatosis, equalizes the circulation, and by re-establishing, as it were, by enchantment, the equilibrium of all the functions, directs, by a special action, an afflux of blood upon the uterus. We have, in this condition, and always with advantage, used the pills of Doctor Blaud, of Beaucaire, composed and administered as we shall describe in treating of chlorosis. We might, also, in the same condition, prescribe Wherloff's pills, made according to the following formula, viz., sulphate of iron, two drachms; extract of absinthium, four drachms; syrup of saffron, q s. to make one hundred and fifty pills. If the disease should seem connected with a scrofulous diathesis, it would be well to recur to M. Lugol's pills: take of protiodide of iron, six grains; starch, twenty-four grains; syrup of gum, q. s. to make twenty-four pills, one of which should be taken morning and evening. If the amenorrhœa should be complicated with chronic leucorrhœa, which is sometimes a substitute for the menstrual discharge, recourse should be had to vaginal injections of the ferruginous waters of Forges, of Spa, of Passy, etc., and at the same time should be prescribed our balsamic, tonic and ferrated troches,* which are perfectly well prepared by M. Corriol, of whom we have already had occasion to speak in this chapter. These troches have the double advantage of being very efficacious in chronic leucorrhœa, and in the amenorrhœa, dependent upon constitutional debility.

* We shall give, at the end of this work, the composition and mode of preparation of our troches, into which enter, in different proportions, copaiba, the black oxide of iron, gentian, rhubarb, canella, and magnesia.

There might, likewise, be prescribed with advantage in this case, the internal use of turpentine, united to some tonic substance, the efficacy of which has been established by M. Gibert, (*Rev. Méd.*, 1837, t. iii. p. 32.)

For the cure of the amenorrhœa under consideration, there is not only a crowd of other martial preparations, such as the vinum ferri, the martial pills, etc., but also a great number of other tonic and stimulant remedies, among others, cinchona, quassia, gentian, centaury, buck-bean, canella, ginger, cardamum, absinthium, mint, balm, sage, etc., etc. Though most of these substances are efficacious in some cases of amenorrhœa, we think they should be resorted to only where it is certain that the alimentary tractus can support their action without injury.

The means that we have just mentioned should not be employed, where constitutional amenorrhœa depends upon excess of vital power and a state of general plethora. In cases of this kind, we most frequently succeed in reproducing the menstrual flux by diminishing the richness and exuberance of the blood and other fluids, by means of a more or less rigorous diet, vegetable regimen, watery drinks, mild purgatives, and especially by the aid of repeated bleedings practised mostly a few days before the presumed epoch of the menstrual exhalation.

If, after having modified the constitution, as we have described, the menses should fail to make their appearance, we might resort, but with the utmost circumspection, to the remedies ranged in the class of emmenagogues, such as rue, mugwort, absinthium, saffron, savine, Fuller's pills, and those of Ruffus, which are prescribed only at the approach of the menstrual epoch. To the careful use of these substances, it would be well to add the employment of local means capable of inviting the blood towards the uterus, such as foot-baths, hip-baths, warm enemata, aromatic fumigations, fomentations of the same nature applied to the external genital organs, cups about the pelvis, local depletion from the vulva, or general bleedings from the inferior extremities, and finally, a great number of other remedies, to which we shall revert hereafter. We merely add, that in order early to accustom the genital organs to a sanguine fluxion, we should make use of the local means we have just pointed out at the same time that we prescribe a general treatment. In refractory cases, it would be particularly necessary to insist upon the employment of leeches, to the number of four or six, applied to the internal surface of the thighs, or on the outside of the labia majora, taking care to renew the applications several times at the approach of the supposed epochs of the menses. M. Lisfranc, (*Bulletin de clin.*, No. 5, p. 148,) who advises that the bites should not be allowed to bleed for more than a quarter of an hour, prefers, under these circumstances, a bleeding in the foot of two to four ounces. That able practitioner says, with reason, that to succeed, this treatment must often be employed, at each menstrual epoch, for several months in succession.

In order to produce, sympathetically, an afflux of blood towards

the uterus, several practitioners have recommended irritating the mammæ, either by means of cups, by the use of leeches in small numbers,* or by the application of sinapisms to the breasts.† Several instances of the successful employment of these means have been published in the journals, and mentioned in the foot note, and in the fourth volume of the *Archives Générales de Médecine* for the year 1831.

The *treatment of amenorrhœa, dependent upon a particular condition of the uterus*, varies according as the menstrual disorder is owing to engorgement, to atony, or to some accidental or some congenital fault of the gestative organ.

*Uterine engorgement*, which contra-indicates all the emmenagogues, and other excitant remedies which we have just mentioned, should be treated by rest, by mild diet, by bleeding from the arm, baths, emollient drinks, poultices, demulcent and narcotic enemata, and finally, by all the remedies which we pointed out at page 297, while speaking of simple engorgement of the uterus.

When the non-appearance or suppression of the menses depends upon a torpor of the womb, the female, being in other respects well, we might, with the view of exciting them, advise cups to the hypogastrium, the groins and thighs; warm douches of the Barèges waters, or of those of Aix in Savoy, directed to the outside of the pelvis and into the vagina; stimulant enemata, medicated pessaries, electricity,‡ galvanism, (*Andrieux*,) coïtus,§ flannel drawers, aromatic hip-baths, bathing of the legs knee deep, the application of a small cup to the cervix uteri,‖ when the hymen allows of it; we should, at the same time, resort to the methodical employment of the active emmenagogues, as for example rue, savine, saffron, mugwort, hellebore, aloes, and cantharides, the effects of which must be carefully watched, and which are rendered still more efficacious by association with persons of the other sex, by visiting balls, the theatre, and finally, all the circumstances capable of arousing the genital organs.

Amongst other remedies proposed for the treatment of chronic amenorrhœa, we ought to cite iodine, the efficacy of which has been proved by MM. Coindet, Dumeril, Brèra of Padua, Magendie, Sablairoles, Récamier and Trousseau, as well as by ourselves. Doctor Carron du Villards, (*Bulletin thér.*, Oct. 15, 1835,) speaks of having seen several cases of amenorrhœa yield to the internal employment of cyanuret of gold, prepared in the proportion of three grains to eight ounces of alcoholic water. At first one teaspoonful

* Ch. Loudon, on the cure of amenorrhœa, 1832. Répert. de clinique, par Carron du Villards, 1834, p. 304.

† Patterson, *Gazett. Méd.*, 1833, p. 866.

‡ Sigaud-Lafond, (*de l'electr. méd.*, p. 565,) Mauduyt, (*Trait de l'electr. méd.*) Nauche, p. 659, Ch. Loudon, (*on the cure of amenorrhœa*, 1834.)

§ Hippocrates, Plato, (*in prax.*, cap. xiv.) Hoffman, (*méd rat. syst.*, t. iv. p. 401, Cullen, (*Elém. de méd.*, trad. par Bosquillon, t. ii. p. 137,) and several other authors state, that the first appearance of menstruation often takes place after the first conjugal approaches.

‖ MM. Chaponnier, Piorry, and Amussat, have made use of this remedy, which, in our opinion, is far from being unobjectionable.

is taken morning and evening, fifteen days before the supposed period of the menses, and then two and three progressively. Ergot, also, has been employed advantageously, in a dose of five or six grains daily, (Pauly,) and the watery extract of aconite, (M. West,) in the dose of from one to eight grains progressively.

Were the amenorrhœa associated with a condition of extreme irritability, or with excessive action of the uterus, we should prescribe abstinence from coïtus, revulsive bleedings from the arm, injections, emollient and narcotic enemata, and poultices, and finally, various kinds of sedatives, and particularly opium. Nervous and hysterical symptoms, and neuropathic disorders, should be treated by antispasmodics, assafœtida, camphor, musk, castor, and the opiate preparations, administered especially in small enemata. Finally, we conclude what we had to say upon the treatment of amenorrhœa depending upon a local cause, by adding that, that which is owing to atresia of the uterus, vagina or vulva, or a lesion of situation of the gestative organ, requires operations which we have elsewhere described.*

The *treatment of sympathetic amenorrhœa* must depend on the causes which have given rise to the suppression. When the amenorrhœa has been consequent on circumstances which may provoke it instantaneously, such as the sudden impression of cold, it is necessary, if we are called at the very beginning, to prescribe the use of warm drinks, slightly excitant and sudorific, as for example the infusions of balm, of mint, of elder flowers, &c., rest in bed, the application of warmth to the thighs and legs, kept up by means of bottles filled with warm water, or still better by a poultice of flaxseed meal, enveloping the whole of the inferior extremities, and renewed as soon as it begins to cool: in cases of this kind, the following potion has always seemed efficacious in our hands; take of distilled balm-water and of orange-flower water, each two ounces; spirits of Mindererus, three drachms; tincture of saffron, thirty drops; syrup of tolu and orange-peel, an ounce each, of which a tablespoonful may be taken every half hour. We may, likewise, employ with advantage, dry cupping to the hypogastrium and upper part of the thighs, and particularly the *ventouses monstres*, that is to say, the apparatus of Doctor Sunot,†

* At the sitting of the 20th March, 1838, Professor Roux read to the Academy of Medicine, the account of his scientific journey in Germany, where reference is had to a curious case observed at Prague, at the clinic of M. Fritz, in a young person twenty-six years of age, whose uterus presented a development equal to that of a woman pregnant at seven months; this anormal condition was produced by an accumulation of the menstrual blood, which could not be discharged because of a congenital obliteration of the cervix uteri, and absence of the inferior portion of the vagina. Having been consulted by M. Fritz, M. Roux advised the opening of the pouch through the vagina by careful incisions with a bistoury. The advice of the celebrated French surgeon was adopted with complete success. Analogous operations have been performed by Professor Flammand, MM. Willaume, of Metz, Amussat, Stoltz, and some other surgeons whom we quoted in Chapter V., First Section, (lesions of form.)

† Some interesting details upon the application of the *ventouses monstres* may be found in a memoir published by Doctor Sunot, in the number of the *Revue Médicale*, for September, 1834, under the title of *Physiological and Therapeutical Researches on the effects of the compression and rarefaction of the air, both upon the body and limbs*

in which the inferior extremities, as far as the pelvis, should be engaged; this method is so powerful, that we have seen it, in a case of cerebral congestion, produce uterine hæmorrhage in a woman fifty years of age, who had ceased to be regulated for several years. To avoid the inconveniences which might result from the application of this ingenious means, particularly that of too sudden a derivation, the precaution should always be observed of acting slowly and effecting the rarefaction of the air in a gradual manner. The method of M. Patterson, which had already been usefully employed by M. Velpeau, and which consists in the application of sinapisms to the breasts, might also have some good effect. Where the suppression has resulted from some vivid emotion, antispasmodics and sedatives should be conjoined with these means.

The *treatment of amenorrhœa*, dependent upon a visceral lesion, ought to consist in combating the disease which sustains and has given rise to the suppression or primary non-appearance of the menses. The most successful, and, at the same time, rational mode is first of all to allay the irritation of the organs primarily affected; we should not, therefore, concern ourselves with the absence of the menstrual discharge, except merely with the view of diminishing the severity which it lends to the existing affection, and to increase the chances of cure by diverting as much as possible the afflux of blood towards the organ, whose lesion is the primitive cause of the amenorrhœa. Irritation and congestion of the heart, lungs, stomach, liver, etc., require, at first, the treatment appropriate to those different affections, and afterwards local means proper to recall the menstruæ, which should be employed chiefly at the epoch corresponding to the monthly periods. Vicarious hæmorrhages, of small amount, not affecting very delicate organs, and especially those already of long standing, ought to be treated with prudence and circumspection, and perhaps left to the efforts of nature alone; if, however, they should occur from organs in which congestion might produce fatal consequences, it would become necessary to relieve the patient of them, taking care not to arrest them suddenly: after producing the discharge of the menses by the rational means we have mentioned, all anormal hæmorrhages will disappear spontaneously, or they may be suppressed without danger.

We shall conclude by saying, that the moral condition of the patient merits as close attention as the different means we have discussed, and requires, perhaps, greater sagacity even on the part of the physician. So long as we neglect to attend to the state of the mind, the menstrual disorders depending upon diseased mental conditions, and especially upon profound dejection, resist all the resources of the art; all the doings in pharmacy are equally powerless to oppose the ame-

*when isolated.* We are happy to have the opportunity, in this place, of thanking the ingenious inventor of this apparatus, for the disinterested zeal with which he applied it upon our own person, during an attack of cephalalgia and insomnia, brought on by excessive labour and prolonged loss of rest. This new derivative of the blood, whose happy results we have witnessed, procured for its author the prize of two thousand francs, offered by the Academy of Sciences of the Institute.

norrhœa of a young girl, who is tormented by a disappointed or unfortunate love!

"Nullis est amor medicabilis herbis!"

The consolations of a prudent and enlightened mother, the counsels of a kind and indulgent friend, and especially marriage, where the prostration is not gone to such an extent as to give cause to fear for pregnancy and labour, such are the means which, in these cases, can arrest the disease at its source.

## OF DYSMENORRHŒA.

We understand by *dysmenorrhœa* a state of the menstrual discharge, in which it is regularly established, but is preceded or accompanied by uterine pains, and often by nervous and hysterical symptoms. This anormal condition, which is less a disease than the painful exercise of a function, and which, according to M. Lisfranc, is often hereditary, may be either idiopathic or symptomatic of a chronic metritis, with or without engorgement.

The *causes* of idiopathic dysmenorrhœa are but little known; it has been noticed, however, that those women who furnish the most frequent examples of it, are generally of a nervous or bilious temperament, of ardent feelings, and greatly addicted to coïtus; yet constitutions precisely the opposite of this are not exempt from it; and it has often been observed that changes of climate, of mode of life, of habitation, and various debilitating causes, which, by long-continued action, produce amenorrhœa, are likewise causes of the difficult and painful discharge of the menstrual fluid.

The symptoms which constitute a case of dysmenorrhœa are: pains in the loins and groins, in the hypogastric region, in the thighs, and a kind of contraction of the uterus, which precede and accompany the flow of the menses. To these symptoms, which are always present, are added others which sometimes fail to appear; such are a condition of hystericismus and anxiety, a sense of constriction in the throat, of lassitude of the limbs, more or less complete insomnia, and a very variable temper. Most of the patients feel a sensation of heat in the neck of the womb, a kind of pruritus of the vagina and spasmodic constriction of the vulva, giving rise to erotic desires. Nevertheless coïtus, far from being agreeable, is then very painful and irritating; moreover, the discharge of blood takes place only drop by drop, and though sometimes abundant, it is always accompanied with a great deal of pain.

Symptomatic is much more common than idiopathic dysmenorrhœa; its most frequent cause is engorgement of the neck, and especially of the body of the uterus, which may be ascertained by means of the Touch practised during the intervals between the menstruæ. The incomplete and painful discharge of the menses may likewise be symptomatic of some lesion of a distant organ, and like amenorrhœa, there is no chronic disease which may not give rise to it.

The *treatment* of idiopathic dysmenorrhœa, or that which we may

regard as dependent upon a neurosis of the uterus, and excessive sensibility of that organ, presents as the first indication the allaying of the nervous condition by the use of prolonged warm baths, and particularly hip-baths, employed several days before the menstrual epoch; opiate enemata, narcotic injections of cicuta and henbane, when the pruritus is very severe, or simply mucilage of marshmallows with infusion of poppy-heads, when the heat alone of the parts is augmented; emollient drinks in large quantity, vegetable diet, mild regimen; finally, if the female is plethoric, a revulsive bleeding, during the interval of the menses, or still better, two or three days before their appearance; such are the means whose efficacy in the treatment of the affection under consideration has been tested by experience. In very irritable women, we should add to these means the internal employment of sedatives; amongst others the potions and emulsions, which contain either extract of opium in minute doses, or syrup of white poppies or acetate of morphia, in the proportion of a quarter of a grain to four ounces of fluid, which should be taken in the dose of a tablespoonful every hour. Finally, with the view of producing a more rapid sedative action upon the uterus, and to overcome the painful tormina which accompany the discharge, we might, after the example of M. Masuyer,* M. J. Cloquet,† Patin, of Troyes,‡ and some other practitioners, we might, we say, as we have several times done with advantage, give from forty to seventy drops of the acetate of ammonia, (*spirit Minderer.*) in a glass of water, taken at two doses. The administration of this remedy allays the pain, and in that way facilitates the flow of the menses. As soon as the malaise and uterine pains are felt, the first dose, (twenty-five to thirty-one drops,) should be administered; half an hour after a second quantity is ordered; finally, if the symptoms do not improve, a third dose is prescribed, but that should be done with the same reserve, in order to avoid what sometimes results from it, a diminution in the quantity of the menses. We shall conclude by saying, that amenorrhœa is often rebellious to therapeutical means, especially when hereditary, and in some sort connected with the primary organization of the womb. Dysmenorrhœa, symptomatic of disease of this viscus, or of a distant organ, offers the same prognosis as the primary affection, and requires, therefore, the same treatment as the last.

[Here is no notice taken of the very ingenious theory on dysmenorrhœa, by Dr. Mackintosh, in his Practice of Physic, p. 686. Dr. Mackintosh, it seems, as long ago as 1823, had met with much difficulty and embarrassment in the treatment of cases of dysmenorrhœa, when, having thought that he perceived in such cases the signs of stricture in the canal of the cervix uteri, he imagined that to dilate that canal with the bougie, might be a method of relieving the pain of the patient. In the course of a few years, from 1826 to 1832, he met with twenty cases of dysmenorrhœa, which he treated

* Gazette de Santé, November, 1826.
† Archives gén. de Med., t. xii. p. 651.
‡ Clinique des hopitaux, t. iii. No. 15 and 16, 1828.

by the use of the bougie, and in eighteen of them with a most marked success; in two others, without advantage. Ten of the eighteen were married women, of whom seven afterwards fell with child. Eight were unmarried young women or widows.

As it is well known that strictures of the urethra, if neglected or become inveterate, produce diseases of the bladder and even of the kidneys, it appears reasonable to suppose that too great a constriction, or narrowness of the cervical canal, might come at last to establish a permanent irritation in the womb, laying the foundation for the complaints in question. It is at least certain that instances are met with of great alterations in the form and size of the canal. Dr. Mackintosh says (p. 652) that in 1823, a medical friend presented him with a preparation of the uterus and its appendages, in which the os uteri was so small as scarcely to admit of the introduction of a hog's bristle, and that he has obtained many preparations taken from the bodies of people dying of different diseases, particularly phthisis, and whose histories prove that they had laboured under dysmenorrhœa during their menstrual lives. Some are so small as scarcely to admit a bristle, and others large enough only for a small silver probe. I exhibited two such specimens to the class in the Jefferson Medical College, in 1841, and I have a cast of one in *papier maché*, by Mons. Thibaud, of Paris; I have also, on various occasions, carried out Dr. Mackintosh's suggestions in some of the cases under my care. I cannot boast of success equal to that of Dr. Mackintosh, perhaps because I have not confined myself to the selection of cases so strictly as he may have done. It certainly appears to me, however, that the operation has been productive of advantage in several instances; and in two ladies, who were both married, and who had painful menstruation, the dilatation was followed by relief, and in both of them the health was so much improved that they have continued to be in good health as regards dysmenorrhœa; both of them have had children, one thrice, and the other twice—though they had never before become pregnant.

The operation is safe, and not very difficult of performance.

The woman should lie across the bed, or near the foot of it, with the knees drawn upwards, and separated with a pillow. A flexible block-tin bougie of proper size is next to be conducted along the right index finger to its point, which is placed on the os uteri, and serves to guide the bougie to the canal of the cervix. If the bougie be somewhat curved, its apex enters without difficulty, and passing upwards, slowly, to the distance of one inch and a half to two inches, is left in situ for a minute or two, and then withdrawn, to be followed by one of a larger size. The patient complains of a sense of aching in the region of the uterus if the instrument selected happen to be somewhat of a full size; and I think it undesirable to give any pain whatever, since it will be found that a larger and still larger instrument can be passed at subsequent operations, without distress.

It is proper to advert in this place again to the new theory of menstrua-

tion, which has been the subject of two notes in this volume. Very certainly many women do complain of the dysmenorrhœa-pain as situated in the ovary, sometimes on the right, and sometimes on the left side. I was recently present during the severe dysmenorrhœa-pain experienced by a patient, which she referred to the left ovarian region—and she told me that she was in the habit of suffering sometimes on one, and sometimes on the other side, but never in both iliac regions at once. I should think there could be little doubt that the pain in such case is the result of the exalted sanguine and nervous force of one of the ovaria and tubes, coincident with the mensual hyperæmia, and completed development and rupture of a Graafian vesicle. In such a case, the therapeutical treatment indicated would be the subduction of such vital augmentations—to be effected by venesection, by cooling aperients, by baths, fomentations, cataplasms, by the application of leeches along the region of the round ligament, and by a blister in anticipation. This method, with the calming and restraining influence of the anodyne enemata or suppository would suffice, together with the proper hygieinic precautions as to dress, diet and exercise, probably to overcome the morbid tendency of the functions. I shall take advantage of this opportunity to set forth a few laws upon the subject of menstruation and reproduction, as laid down by M. Pouchet, of Rouen, in his *Théorie Positive de la Fécondation des Mammifères, &c.* Paris, 1842, 8vo. p. 161. I have not had an opportunity to see M. P.'s work until to-day. He lays down certain fundamental physiological laws, as follows:

Law I. There is no exception in favour of the human race; the phenomena of human generation obey laws analogous to those of the mammals.

Law II. In all animals, generation is effected by means of ova: some inferior creatures furnish exceptions to this law.

Law III. In all the animal series, ovula pre-exist to fecundation.

Law IV. Physical obstacles prevent the seminal fluid from coming into contact with the ovula while within the Graafian vesicle.

Law V. In the entire series of animals, the ovary incontestably emits ova independently of fecundation.

Law VI. In all animals, the ovary emits ova at determinate epochs connected with a periodical sur-excitement of the genital organs.

Law VII. Fecundation never takes place in a mammal, except where the emission of ova coincides with the presence of the seminal fluid.

Law VIII. The emission of the catamenial discharges in women corresponds with the phenomena of excitation observable in the mammalia during the rut of the zoological species, and particularly in the females of the mammalia.

Law IX. Fecundation has a constant relation to the discharge of the menses. It is, moreover, easy to point out the inter-menstrual period, wherein conception is physically impossible, and also that wherein it is probable.

Law X. There are certainly no ovarian pregnancies, properly so called.

*Additional physiological laws.*

Law I. Fecundation in mammals, when normal, occurs in the womb.

Law II. Abdominal and tubal pregnancy do not prove that fecundation takes place in the ovary, nor that this is what determines the emission of the menses.

Law III. The Fallopian tubes do not normally contract, except from the interior towards the exterior of the body, for the transmission of the ovulum.—M.]

## OF IMMODERATE FLOW OF THE MENSES AND OTHER UTERINE HÆMORRHAGES.

We ought to comprehend, under the terms *floodings* or *uterine hæmorrhages* only the excessive or immoderate sanguine discharges which take place from the external orifice of the uterus, either in its non-gravid state, or during pregnancy and labour. As our intention is to treat, in this work, only of the hæmorrhages connected with the diseases, properly so called, of the uterus, we shall pass by, in silence, those occurring during gestation and delivery, but propose noticing them in another treatise, independent of this, to be published after a time.

Uterine hæmorrhages occur in women who are still regular and also in those who have ceased to be so when connected with the appearance of the menses; that is to say, when the loss of blood is nothing more than menstruation itself, carried beyond the healthful point, the discharge is specially designated under the term *menorrhagia*, while it takes that of *metrorrhagia*, when it appears at any other epoch than that of menstruation: in menorrhagia or *hypermenorrhœa*, the blood flows at each menstrual period in greater abundance than natural: there are some cases in which the quantity of blood remains the same during a given period; but, nevertheless, the discharge becomes superabundant, because it lasts a greater or less number of days. In some women, the periods of menstruation approximate to each other to such an extent that there remains scarcely any interval between them. In others, the different varieties of hypermenorrhœa are blended together, so that the menses recur not only more frequently, but also more abundantly, and remain during a longer period than usual. Finally, there is another kind of menorrhagia that Aetius has designated by the title of *stillicidium uteri;* and other authors, by that of *menorrhagia stillatitia*, which consists of a sanguine excretion, small in quantity, but prolonged to such an extent as to become in some sort continual, so that the epochs corresponding to the menstrual periods are no longer distinguished except by the greater abundance of the discharge and by the redder colour and firmer consistence of the fluid thrown off.

While women of considerable embonpoint ordinarily lose but little, those who are thin and delicate generally have abundant menstruæ, and are more disposed to menorrhagia than the strong and

sanguine: there are some, indeed, who might be traced by the marks which they leave for several days, even when provided with napkins and cloths. The blood, which escapes in a full, free stream, as it were, compels them to remain in bed, and this the more, as the loss reduces them to a condition of extreme feebleness. Women of this kind of constitution are in the habit of calling themselves very sanguine, because they judge of their temperament by the exuberance of their menstruation.

A consideration of the amount of blood lost by a female at each periodical epoch, is a faulty mode of judging whether the uterine exhalation is in a normal condition, or whether, on the contrary, *hypermenorrhœa* is commencing. It is impossible to have a certain standard, and we think that the quantity of the sanguineous discharge is a measure the more inexact, because a considerable loss often produces no unfavourable symptom in a plethoric female, while a menstrual discharge of moderate quantity is sometimes sufficient to debilitate a feeble person. Nevertheless, we should regard as morbid, the uterine hæmorrhages which appear at any other epoch than that of menstruation, as well as all the sanguine exhalations from the womb, which, far from alleviating and inducing well-being, produce feebleness, paleness, malaise, and which, lasting longer than the ordinary time, are followed by coldness of the extremities, syncope, and convulsions. The guide to direct the physician, in judging of immoderate flow of the menses, is therefore less the quantity of blood that flows, than the strength or languor of the patients. We therefore should not regard a menstrual discharge as morbid, which, though very abundant, exerts no unfavourable influence upon the health of the woman.

[Nothing can be more various than the quantity of blood lost by different women, in their menstruæ. There are many females who enjoy the most perfect menstrual health, and who never find themselves obliged to wear any napkin for the reception of the discharge, but suffer it to fall on their ordinary dress; but this could not be, without the most glaring exposure, were the quantity to be considerable. On the other hand, I am told by many females, that the discharge for them requires, from first to last, some, fifteen, and some even as many as twenty napkins; so that I infer that some women are sufficiently regulated with three ounces, while others require a depuration amounting to fifteen ounces, or even twenty ounces, at each catamenial period. Hence it appears that each woman obeys a law of her own constitution, and that the object of the physician should be to learn what is her particular rate. Having done so, he becomes a fitting judge of what is deviation, by excess, or by diminution. I have seen a girl of fifteen ætat. use sixty napkins, soaked full, for each menstruation, without appearing to be rendered unwell by the loss.—M.]

As metrorrhagia, properly so called, often assumes the periodical character of menstruation, and may be blended with it, it is difficult to distinguish certainly these two sanguine discharges; some authors

regarding the distinction as very important, and resting, moreover, upon the opinions of Celsus, of Hunter, of Dionis, upon the experiments of MM. Mojon, Davy, Brande, Lavagna, Julia Fontenelle, etc., have asserted that the menstrual blood does not coagulate, and is destitute of fibrin. Though the works of modern chemists and physicians seem to leave no doubt as to the permanent fluidity of the menstrual blood, we are far from believing all that has been said upon this subject; for *all the females* in good health, whom we have consulted upon this matter, have told us that they have sometimes expelled clots; besides, M. Lecanut (*Etud. chim. sur le sang.*, 1837) has proved that menstrual blood differs from ordinary blood merely in the respect that it contains some mucus.

[Dr. Donné examined some menstrual blood for Dr. Brierre de Boismont, and found ordinary natural blood corpuscles in great quantity, and epithelium scales from the vaginal mucous membrane.

Mr. Denis gives this analysis of the blood of a girl of twenty-seven ætat.:

| | | | |
|---|---|---|---|
| Water, | 825.00 | Fatty matters, | 3.90 |
| Globules, | 64.40 | Saline " | 12.00 |
| Albumen, | 48.30 | Mucus, | 45.30 |
| Extractive, | 01.10 | | |

Apud. Brierre de Boismont, op. cit., p. 172.

M. Bouchardat, in a patient of 35 æt., found

| | | | |
|---|---|---|---|
| Water, | 90.08 | Solids, | 6.92 |
| These solids were— | | | |
| Fibrine, albumen and colouring matter, | 75.27 | Fatty matter, | 2.21 |
| | | Salts, | 5.31 |
| Extractive, | 0.42 | Mucus, | 16.79 |

Idem, M.]

As it is not always easy to make the differential diagnosis of immoderate flow of the menses and of metrorrhagia, and, moreover, as these two uterine hæmorrhages, which are confounded by most authors, may be referred to the same points of doctrine, and require nearly the same therapeutical indications, we deem it proper not to separate them in the description, in order to avoid the constant repetitions that would occur were we to devote to each a particular chapter. We shall therefore confine ourselves to stating that women who wish to moderate a too great abundance of the menstruæ, should abstain, during the period of their flow, from all violent exercises, and sometimes even maintain a horizontal position, in such a way that the pelvis may be rather more elevated than the head and trunk: those of strong constitution should make use of a milk and vegetable diet; of diluent, cooling and acidulated drinks, as currant water, whey, weak lemonade, decoctions of barley or of dog's grass with nitre, mucilage of gum arabic, flavoured with lemon syrup or with vinegar. Women of a nervo-lymphatic temperament must be nourished with tonic aliments, principally roast meats, and they ought to use as drinks, during their repasts, water mixed with a little generous Rhenish or Bordeaux wine. There might also be directed for them, with advantage, narcotics and antispasmodics, administered

in minute doses during the continuance of the function; the use of cool, or, if the season forbids, of warm baths, in the interval: in either case, small revulsive bleedings from the arm, a few days after the menstrual discharge, to be repeated between each periodical epoch, will contribute powerfully to moderate the discharge of blood from the uterus.

## OF METRORRHAGIA.

For the reasons just given while speaking of excessive flow of the menses, we shall comprehend, under the denomination of metrorrhagia, all the sanguine discharges of the uterus which take place at other times than during pregnancy or labour, and which we divide into *essential*, *sympathetic* and *symptomatic* hæmorrhages.

The two first classes include all discharges of blood that take place without wound, erosion or appreciable rupture of tissue, and in the latter are found those which constitute secondary phenomena, or accidental complications of some more serious disease which ought particularly to fix the physician's attention.

Essential or idiopathic metrorrhagia, that is to say, that which, like menstruation, is effected by the mysterious influence of an unknown physiological law, may appear at any time of life; for it has often been observed to occur in women of very advanced age, in girls who were not yet regulated, and even in children of seven years of age, (Delamotte;) of three years of age, (Bourjot Saint-Hilaire;) of nine months, (Clarke, *Nouv. Bibliot. Méd.*, t. p. 92, 1829;) of three months, (Comarmond;) and of a few days, (Mallat, *Gazette Méd.*, September, 1832.) We should remark, however, that the sanguine exhalations from the uterus, which appear at other times than during the fecundative period of the life of the female, are very rare exceptions.

Essential uterine hæmorrhage may be active or passive. The former, or active metrorrhagia, which accompanies plethora, and occurs during the mature period of life, has, for *predisposing causes*, excessive heat, extreme cold, residence in large cities, the inhabitation of elevated situations, the abuse of stimulating dishes, of alcoholic liquors, and of too nourishing food, violent passions, indolent mode of life; beside all those that are common to other hæmorrhages, we range amongst those which are peculiar to active metrorrhagia, the epoch of the menses and principally those two at which this discharge is either first established, or should finally cease; excessive sensibility of the womb, whether primitive or acquired by the abuse of coïtus, of masturbation, or from any other cause; finally, frequent child-bearing, the use of foot-stoves, the abuse of emmenagogues, of acrid purgatives, and of warm baths, all properly regarded as being predisposing causes of active metrorrhagia. It is not uncommon to see an abundant loss of blood follow a suppression of the menses, or occur in newly-married persons, especially if the first conjugal approaches take place a few days before the epoch of menstruation.

The *exciting causes* of active metrorrhagia are: violent exercises, such as running, dancing, riding on horseback, the jolting of a carriage, a fall on the feet, on the knees, and especially on the buttocks; excitants applied to the genital parts; the efforts and concussions which result from lifting a burthen, from crying, singing, sneezing, coughing, etc. We ought to remark, however, that all these circumstances act most powerfully where the gestative organ has been for a long time the seat of an excess of vital force or of a local plethora.

The *causes* of asthenic, or passive metrorrhagia, are all such as may cause general or local debility, such as excessive labour, late hours, the depressing passions, grief, immoderate or too frequent menstruation, diseases of long duration, protracted lactation, the habitual use or abuse of aliment of improper nature, relaxing, unwholesome or mucilaginous drinks; warm mineral waters, warm baths, and emollient or warm injections; finally, passive uterine hæmorrhage, which may be a consequence of labour or abortion repeated in quick succession, has frequently been the termination of an often-renewed active metrorrhagia, or has even been the result of a treatment for this affection, in which bleedings, refrigerants, astringents and narcotics have been improperly used. We add, that women of feeble constitution, of lymphatico-nervous temperament, and those who have laboured under some scorbutic disorder, are more liable than others to the sanguine exhalation of which we are speaking.

*Sympathetic uterine hæmorrhage* depends upon causes which are equally worthy of arresting the attention of practitioners. Those causes, whose action first falls upon other organs, produce in them disorders which, reacting upon the womb, occasion uterine hæmorrhages, which are really sympathetic. This species of metrorrhagia is the more readily produced in proportion as the organs, first diseased, have a more intimate sympathy with the uterus; wherefore, inflammations of the stomach, of the brain, heart, lungs, liver, intestines, etc., are frequent causes of uterine hæmorrhages. Stahl, (*Méd. prat.*, lib. iii., p. 29,) states that during the bilious constitution, which prevailed in 1778, uterine hæmorrhages were very common. Tourtelle, also, makes mention of meningo-gastric fevers, which were accompanied by an abundant serous discharge from the vagina. Fincke, in the history which he has given of the epidemic of Techlenbourg, says that menorrhagia was very common, and that menstruation experienced an unfavourable influence from the bilious affection. Ziegert (*Dissert. sur l'emploi des purg. dans la ménorrhagie*), has seen an intestinal irritation produce sympathetically a sanguine exhalation from the uterus; Vander Bosch has also observed, that the same effect was produced by the presence of worms in the digestive tube; finally, the irritation of the breasts caused by a sinapism, the application of leeches, or even the suckling of the child, has brought hæmorrhages from the uterus, and has reproduced the suppressed menstruæ. Moreover, all circumstances capable of imparting a sudden shock to the innervation, such as joy, grief,

anger,* fright, the sudden announcement of bad news, have often been the causes of sympathetic metrorrhagia.

It is well to say, that the losses resulting from these last causes, are met with more particularly in nervous women, who allow themselves to be agitated by the slighest events, and who are, as Hoffman says: "*activæ et sensibilioris naturæ, vel etiam hypochondriasis et hystericis passionibus obnoxiæ.*"

However numerous the causes we have just mentioned, they are not those, nevertheless, which most frequently produce hæmorrhage from the uterus. Indeed, hæmorrhages from the gestative organ are, in the great majority of cases, the symptoms of a local affection, such as acute or chronic metritis, simple hypertrophy, scirrhous engorgement, and especially sanguine engorgement, polypous tumours, simple, scrofulous, tubercular, venereal, carcinomatous, and fungous ulcerations; finally, inversion of the uterus, and a number of other lesions of the organ, which have been discussed in this work. Symptomatic metrorrhagia is also, in some cases, the unfortunate result of scorbutic, eruptive, typhoid, and pestilential diseases, and of malignant intermittents.

The *course and precursory phenomena* of uterine hæmorrhages vary according to the causes which have produced them. Those which are the effects of predisposing causes pursue a slow progress, and are generally established either by a successive augmentation in the quantity and duration of the menstrual discharge, or by the approximation of the menstrual periods. In some cases, the hæmorrhage reappears a few hours after its cessation; in others, it returns every day, every two days, every three days, and assumes the quotidian, tertian or quartan type; finally, there are cases in which the returns appear only every eight days, once a month, and every three months. The influence of habit is so powerful, that essential uterine hæmorrhages are often renewed in the same order, and with the same conditions that first gave rise to them.

When the metrorrhagia has been produced by a violent exciting cause, the discharge appears either immediately, or which is most common, a few moments after the action of that cause. In either case, the uterine loss may take place with such violence, that the life of the female is soon exposed to the greatest danger, especially if the accident has happened at the epoch of menstruation. This metrorrhagia, which may be called accidental, does not commonly return after it has once been overcome.

Although, in some cases, the precursory symptoms of essential metrorrhagia are confined to a few uterine pains, like those felt at the menstrual epochs, it happens, most frequently, that the sanguine flow is preceded by various phenomena; amongst others, by a sense of tension, of fulness, of heat, of weight, and pain in the pelvis and hypogastrium; these symptoms ordinarily coincide with swelling of the breasts, frequency and fulness of the pulse, obstinate constipa-

* Doctor Rondelou, (*Dissert. inaug.*) quotes from M. Alibert, the case of a female endowed with very great sensibility, who, every time that she gave way to transports of anger, was attacked with violent hæmorrhage from the uterus.

tion and general lassitude; finally, paleness of the face, coldness of the extremities, shrinking and horripilation of the surface, heat and pruritus of the genital parts, are signs which indicate the approach of active hæmorrhage. The flow of blood, which soon follows these last symptoms, at first restores calm and quiet; but, where the amount is greater than the state of the strength permits, the woman experiences a sensation of sinking in the region of the stomach, the pulse becomes feeble, and soon hardly perceptible, the lips become white, the face pale, vision is obscured, the hearing more and more obtuse, respiration is embarrassed, and death, the approach of which is heralded by lipothymia and convulsions, often comes to close this startling scene.

Far from following the march and order which we have just traced, consecutive nervous symptoms sometimes make their appearance very early, and we see them arise even before the loss of blood has been very abundant. There is one quite frequent consecutive phenomenon in particular, which is sometimes extremely intense, and persists for a long time after the hæmorrhagic discharge has been arrested. In cases in which the losses of blood, without reaching this point, are frequently renewed, and last longer than the usual period, the digestion becomes more and more deranged, the appetite is lost, the pallor of the skin resembles that which is met with in chlorosis, the eye-lids are swollen and surrounded by a dark areola, the inferior extremities become œdematous, serous collections are found in the pleuric and peritoneal cavities, and there are generally added to the unfavourable symptoms which we have just mentioned, dull pains in the stomach, and various nervous disorders. We should remark, however, that the convulsions and syncope which occur, are sometimes advantageous in producing a general spasmodic condition, which throws the blood upon the interior of the economy.

In passive metrorrhagia, the blood escapes without precursory signs, and flows little by little and for a long time. The sanguine exhalation is not preceded by any symptoms which show that the action of the uterine vessels is increased. Finally, the frequent return of the hæmorrhage, the presence of an abundant leucorrhœa in the interval of each new appearance of the discharge, and especially the persistence of the loss, the pale and serous, and sometimes blackish colour of the secreted fluid, will indicate sufficiently the passive and asthenic character of the sanguine flux.

Though the *diagnosis* of metrorrhagia is commonly readily made out, since the disease declares itself by the escape of blood and the effects produced upon the economy, it is not always easy to ascertain the causes which give rise to it, and which keep it up. Nevertheless, we may most generally succeed in recognizing them by an attentive examination of the patient, and by carefully weighing the symptoms along with the commemorative circumstances. As the uterine hæmorrhage is most generally the symptom of a more serious disease, it is to the discovery of this latter that the physician should especially devote himself. It becomes, therefore, indispensable in the majority

of cases, to proceed to the examination of the sexual organs, by means of the Touch and the speculum uteri; but we should never resort, in the very commencement, to this kind of exploration, when the female is very nervous and easily irritated, although the diagnosis ought, in most cases, to direct the practitioner in his choice of means; we shall add nothing to what we have said upon the particular characters of each kind of metrorrhagia.

The *prognosis* of uterine hæmorrhages ought to be based upon the causes that have produced them, the severity of the symptoms, the constitution and strength of the subject, and finally, the duration of the disease. The passive metrorrhagias are more unfavourable, more difficult to overcome, and more liable to relapse than those which are active. Those that depend upon transient causes cease commonly of themselves, or at least are readily cured; if they ever appear with some severity, it is only when they are very abundant. Ancient hæmorrhages, which seem in some sort to have habituated the economy to frequent losses, are the most rebellious to the curative means which are opposed to them. Those which come on during the early part of puberty, almost always insensibly cease as menstruation becomes regular. It is the same with the attacks of metrorrhagia, which announce the critical period; they generally disappear spontaneously so soon as the woman has reached the normal term of her menstruation. Finally, metrorrhagia symptomatic of a local condition, as well as that which results from irritation of a distant organ, reacting sympathetically upon the uterus, is dependent upon the severity of the disease which produces them. Let us add, in order to terminate what we had to say upon the prognosis, that active, intermittent, and often-repeated hæmorrhages, are usually unfavourable, rather because they become the source of a number of very serious lesions of the womb, than because they make the whole economy feel their pernicious influence. Finally, we remark that the critical metrorrhagias generally announce a favourable termination of acute diseases, but that in eruptive diseases, as in adynamic fevers, they are the indices of great prostration of the strength, and augment the gravity of the prognosis.

The *treatment* of uterine hæmorrhages presents three principal indications to be fulfilled, which are: 1, to remove the causes, if they be still present, and will yield to the powers of art; 2, to arrest the discharge in severe cases; 3, to prevent the return of the hæmorrhage.

It is useless to recapitulate all the causes of metrorrhagia, in order to point out the means of removing or overcoming them; there are some, however, upon which we deem it proper to insist by devoting to them a particular examination.

Active uterine hæmorrhage, which depends upon general plethora, and which often finds a remedy in itself by the mere fact of the loss of blood, requires, in the majority of the cases, one or two revulsive bleedings from the arm. The local plethora, which often exists, independently of the general plethora, likewise demands the same means, but we ought not to be in too great haste to arrest the flow

of blood, which is sometimes of great use in preventing inflammation of the womb. We should, however, in all cases, prescribe absolute rest on mattresses of hair or straw, arranged in such a way that the pelvis may be somewhat higher than the rest of the body. The patient, who should be kept in perfect quiet and in the greatest tranquillity of mind, ought to be lightly covered, and should breathe fresh air; but it is always well to avoid coldness of the extremities; the efficacy of these means may be much increased by ordering at the same time strict diet, or at least, forbidding any aliment except some fruit jellies, or rice-milk, or barley or some other amylacious substance, prepared with milk or water. There should be prescribed, at the same time, the abundant use of some refreshing drink, taken cold, such as whey or a decoction of dog-grass with nitre, or of rice, of apples, green apples, oranges sweetened, of syrup of currants, of mulberries, cherries, vinegar, of quinces, etc. Were these means insufficient, we should prescribe a tisan, made with an ounce or two of comfrey-root, or an ounce of rhatany-root, and sweetened with some sedative syrup; finally, by means of emollient enemata with honey, of suppositories of *beurre de cacao*, and especially by mild laxatives, such as the pulp of tamarinds, or of cassia fistula, or cream of tartar, (potassæ bitartras, from one to four drachms,) we should combat the constipation, which is hurtful from the expulsvie efforts which it necessitates, and from the state of general irritation which it gives rise to.

If the means we have just mentioned should fail in arresting the hæmorrhage; if, especially, the flow of blood, by its quantity or duration, exposes the life of the patient to imminent danger, we should seek to draw towards some other point the fluxionary movement and the hæmorrhagic effort directed towards the uterus; it would be well, at the same time, to overcome, as far as possible, the spasms upon the periphery of the body, which keep up the concentration of vital movement towards the gestative organ, and, in certain cases, to act directly and immediately upon the vessels which throw off the blood, by determining their shrinking and constriction. We can fulfil these different indications by means of revellents, antispasmodics, narcotics and astringents; amongst the revellents, bleeding ought, with good reason, to be placed in the first rank, especially in essential active metrorrhagia, and in that which is accidental or which depends upon a general condition of the constitution. The bleedings, which in these cases ought to be made from the arm, should always be of small amount, a palette more or less. To obtain a more powerful revulsive effect, we might, after the example of Riverius, allow the blood to flow little by little only, and at several different times, by occasionally keeping the finger upon the orifice in the vein. Where bleeding from the arm appears difficult, as often happens in women, we might substitute for it either the repeated application of three or four leeches to the anterior and upper surface of the fore-arm, or beneath the mammæ, or, as Sennertus advises, and as is frequently done in Italy, by practising bleedings from the hand in the vena salvatella or cephalica. It would likewise be well to

determine a powerful revulsive effect, by applying cups or a sinapism between the shoulders; in this position we should not have to fear the inconveniences that are charged, of increasing the hæmorrhage when they are applied to the breasts, as Hippocrates recommends, (*Aphoris.* 50, sect. v.), or underneath the same organs, according to the precept of Galen. The *ventouses monstres* of Dr. Junot, applied to both the arms, produce a very energetic revulsion, which, in our opinion, should render their employment preferable to the warm manuluvia recommended by F. Hoffman (*De hæmorrhagiis gen. orig. et curat.*, 1697; Lordat), (*Traitè des Hæmorrhagies*, 1806; Désormeaux), (*Dict. de méd.* t. xiv); it is well understood that these different revellents, applied to the superior extremities or any point whatever of the chest, ought to be rejected, or, at least, employed with the greatest circumspection, where the lungs are feeble and disposed to become the seat of a sanguine congestion; vomiting, provoked by ipecacuanha, and recommended by Hippocrates, Stoll, Fincke, Cullen, Alphonse Leroy, Gardien, Osborn and some others, produces a kind of perturbation and derivation which may be advantageous in some cases, principally where the metrorrhagia is connected with some gastric disorder; but as it is impossible clearly to determine the circumstances under which emetics ought to be prescribed, we think that they should not be resorted to except with great prudence and discrimination. In case the metrorrhagia depended upon sympathetic reaction with some disorder of a distant organ, the first indication would be to attend to that disorder; but we ought first to resort to the employment of narcotics and antispasmodics,* should the uterine hæmorrhage have succeeded some vivid emotion or shock of the nervous system.

To the employment of the means we have just pointed out, should be added, at the same time, in obstinate cases, the use of astringents, amongst others injections and decoctions of the bark of the pomegranate, or oak, of tormentil, or of bistort, and particularly that of rhatany root, solutions of alum, and, also, cold drinks, acidulated with the aqua Rabelliana. In cases where chronic hæmorrhages had resisted the operation of a variety of remedies, we have always employed with advantage the following potion, taken in tablespoonful doses, every half hour: viz., take of orange-flower water, eight ounces; extract of rhatany, two drachms; syrup of comfrey, two ounces; aqua Rabelliana, thirty drops; Rousseau's laudanum, twenty-five drops.

[I beg leave to take this occasion for the purpose of recommending the trial, in some perverse cases of metrorrhagia, of a remedy that has often proved useful in my hands; and where the use of astringents is indicated, as in the instances here discussed by M. Colombat, I should make use of it with no little confidence. The remedy in question is a decoction of the

* It is in the form of enemata that antispasmodics and narcotics have always seemed to us to prove most efficacious, especially in the following formula; assafœtida, fifteen grains, suspended in the yolk of an egg: flaxseed mucilage, eight ounces; Sydenham's laudanum, thirty drops; tincture of castor, twenty drops, for an enema of half the common size.

roots of the common black currant, ripe, and the roots of the dewberry. A handful of each of these articles is to be boiled in two quarts of water, and after straining the liquor, the patient should take half a cupful occasionally for a dose. The draught is by no means disgusting, and I venture to say that the effect of the administration has often been a very sensible diminution of the discharge. I should deem such a formula very useful in country places, where every facility cannot be enjoyed in varying the more scientific prescriptions repeatedly, upon the failure of such as may have been tried without success.—M.]

The drinking of large quantities of iced water, advised by Hoffman and Leake; very cold enemata of the same fluid, which Bezold speaks of having seen used successfully; and, finally, cold hip-baths, the uterine injections employed by Prosper Alpinus; the application of compresses wet with iced water, with vinegar and water, or with vinegar, to the vulva, thighs, loins and hypogastrium, can be justifiable only by a terrific hæmorrhage, and should never be used except in despair of all else, *in evidenti morbis periculô.*

In metrorrhagia primarily *passive*, or assuming this character after having been *active*, the first thing to be done is to try to restore the strength of the patient by suitable regimen, and by the employment of various tonic substances. To attain this end, we should advise some kind of food which is nourishing without being stimulant, amongst others, roast meats, jellies, farinaceous substances, and the flesh of young animals, and certain fish. Amongst the tonic medicines, should be placed in the first rank the ferruginous preparations, especially the subcarbonate of iron administered in pilular form; the dose, which at first should not exceed three or four grains twice a day, to be gradually increased. We may also employ with benefit the ferruginous mineral waters, the decoctions of catechu or kino, extract of cinchona, or of columbo, and diascordium; finally, we should put in requisition all the resources of hygieine, and with the view of preparing the constitution for the cessation of a discharge which has become in some sort necessary to it, we should practise small revulsive bleedings of from half a palette to two palettes at most. When, by its excessive quantity or protraction, the hæmorrhage has induced a state of debility which favours the relaxation of the mouths of the exhalent vessels, and, consequently, the effusion of the sanguine fluid, it sometimes becomes necessary to sustain the vital forces in order that the uterine fibres and the walls of the vessels may recover their power of contraction; for this purpose, we might prescribe, from time to time, a spoonful of generous wine, rendered aromatic with a few drops of essence of canella; by this means, we arrested, as if by magic, a hæmorrhage which had lasted nearly a month, in the person of the Baroness of Car * * *, authoress of several charming literary productions.

Guided by the special action of ergot on the uterus, and even on the general circulation, MM. Sparjani, Pignana, Cabini, Nègri, Récamier, Duparcque, Trousseau and some other writers, have recom-

mended this substance in doses of from five to fifteen grains, repeated two or three times in the twenty-four hours. Lastly, in hæmorrhages of long duration, M. Vedekin has proposed savine, whose action, however, we fear, would be too energetic and stimulating, though Doctor Sauter speaks of having used it with the greatest success.

To prevent the return of the hæmorrhage, we should remove, as far as it may be possible, the causes which have given rise to it, and direct, at the same time, light food, of easy digestion. Hoffman recommended asses' milk, diluted with Seltzer water, chiefly for women of very delicate and sensitive constitutions, who are more liable than others to uterine hæmorrhages. The patient, who should take moderate exercise in the intervals of each menstrual period, must remain in a state of repose at their approach and during their presence. A visit to the country should be recommended; she ought to retire at an early hour, rise betimes in the morning, and avoid all vivid emotions, and especially the use of coïtus and all circumstances capable of giving rise to erotic desires. It will be well, likewise, to institute small revulsive bleedings from the arm, especially a few days before the epoch of the menses. Revellents, employed with discrimination, and particularly the wearing of a flannel chemise next to the skin, will also be useful in the majority of cases.

In passive metrorrhagia, we should recommend a diet which is succulent and tonic without being stimulating, and at the same time the use of rough wines, and of beer rendered medicinal by the infusion of bitter plants. Tonics, in particular the preparations of iron, ferruginous waters, river and sea bathing, tonic and astringent douches and injections into the vagina; douches of the same kind to the lumbar and hypogastric regions, and, finally, aromatic fumigations will often be useful, especially if local debility exists.

The treatment of *sympathetic* and *symptomatic* hæmorrhages is the same as that of the diseases upon which they depend; it should be modified, however, according to the degree of curability of the principal disease, and according as the uterine flow is connected with an incurable local lesion, or a serious disorder of some other viscus.

When the metrorrhagia depends upon an incurable disease of the womb, it is almost always, unless it be excessive, beneficial to the patient, since it diminishes engorgement and allays pain; commonly when the sanguine flux is arrested, whether spontaneously or by the assistance of art, the symptoms soon become aggravated; in cases of this kind, it is therefore quite rational to respect the anormal discharge, so long as it is not profuse enough to endanger life; though the hæmorrhage is most frequently advantageous, the contrary may be the case, that is to say, the pain and other symptoms may increase during the flow of blood, which then becomes the sign of a new engorgement, which it is necessary to oppose in particular by revulsive bleedings. Finally, if the sympathetic or symptomatic uterine hæmorrhage co-exist with a visceral disease liable to aggravation, and to become dangerous by the suppression of the discharge of blood, we ought to be content with moderating the discharge, and

should scrupulously abstain from such general and local means as might entirely suppress it. Nevertheless, should the hæmorrhage become dangerous and threaten the life of the patient, all other considerations must be put aside, that we might recur as soon as possible to the most powerful measures, and especially to the tampon, adjusted, however, only at the depth of an inch in the vagina; or else to the use of simple compression applied to the outside of the vulva, and maintained by the hand and an appropriate bandage. By observing these precautions, which are those recommended by M. Lisfranc, we need no longer fear irritating, by the contact of the apparatus, the altered tissues of the vagina or cervix uteri, whose sensibility is greatly augmented by their morbid condition. In those happily rare cases in which the slightest loss of blood may prove mortal, we must plug the vagina as far as the cervix, by means of a small gauze bag filled with common ashes; this method, which is the more efficacious because it acts both physically and chemically, was employed by us, with entire success, in an apparently desperate case.

We conclude by observing that after an uterine hæmorrhage has become chronic, it is imprudent to suppress it suddenly; in such cases, we should always commence the treatment by the establishment of one or two issues upon the inside of the thigh, in order to replace or reproduce the point of irritation, of which the pelvis has been for a long time the seat.

## OF CHLOROSIS OR GREEN SICKNESS.

There is generally understood by the term *chlorosis** a set of symptoms, the principal of which are, a pale greenish tint, and puffiness of the face; loss of colour and dryness of the skin, coinciding with general debility and derangement of most of the functions, especially those of the circulation, the digestion and the menstruation.

*Chlorosis* was known to the highest antiquity, for it is mentioned in the works of Hippocrates,† of Galen,‡ of Aetius,§ of Paul of Egina,‖ and of Avicenna.¶ Authors who have written upon the disease have assigned different names to it, derived from the symptoms which accompany it, from the period of life at which it is most frequently met with, and the causes which they supposed gave rise to it. Taking the chronological order, the sage of Cos calls it χλωροσμα; Avicenna, *illisis:* L. Mercatus, *febris alba et virginum obstructiones;* Baillou, *fædi colores;* Roderic a Castro and Daniel Sennertus, *morbus virgineus;* Ranchin and Varandé, *chlorosis;* Ettmuller, *icteria alba;* Sydenham, *pallidi-colores;* J. Langius, *febris amatoria;* Savage, *white jaundice;* Tissot, *opilations;* and to conclude, nearly all the authors of the present time designate by the name of *chlorosis*, the disorder which we are now considering.

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* From the Greek χλωρός, green.
† Lib. de morb. virginum.
‡ De causis symptom., lib. i. cap. 7.
§ Tetrab. iii. serm. 1. cap. 23. et tetrab. iv. serm. 4, cap. 10.
‖ De remed. lib. i.
¶ Canon Med., lib. iii. fen. 21. tract iii.

The different denominations of chlorosis afford us a kind of abridged history of the disease, and prove, at the same time, the uncertainty which has always prevailed as to its nature. Though ancient and modern authors generally agree in classing chlorosis amongst asthenic diseases, they are far from holding the same opinion as to its location and point of departure in some diseased organ. As it would require too much time to enter upon the discussions which this question has raised, we shall rest content with recapitulating the principal opinions and grouping together those which are identical or bear some analogy to each other.

Some, with Galen, Hoffman, Gardien, and Hamilton, consider chlorosis to be the result of an adynamic condition of the digestive tube. Others, again, see in this disorder merely an asthenia of the genital organs, and a morbid state consecutive to suppression of the menses. This opinion has been sustained by Forestus, Roderic a Castro, Sennertus, Mercatus, Primrose, Freind, Cullen, Tissot, Pinel, Cabanis, Désormeaux, MM. Roche, Dugès, Blache, and a great number of others; finally, according to MM. Boisseau, Andral, Brachet, of Lyons, Bouillaud, Blaud, Trousseau, Bonnet, and Brueck, chlorosis is dependent upon asthenia of the circulatory system and vicious sanguification.

We do not believe that atony of the digestive organs ought to be regarded as the point of departure of chlorosis, since the affection sometimes precedes the derangement of the digestive function, and since even the stomach sometimes retains its normal condition. Besides, atony of the gastro-intestinal surface always co-exists with that of other important functions. An asthenic condition of the genital organs, with amenorrhœa, can, with no better reason, be regarded as the primary sources of the chlorotic condition, since it may make its appearance in well-regulated girls, who do not cease to be so throughout the disease; the disease has likewise been observed in women perfectly and abundantly menstruated, in pregnant women, in women who have passed the critical age, in children of both sexes, and finally in men, instances of which have been cited by Sauvages, Cabanis, Chambon, Franck, Rahn, Blayn, Désormeaux, MM. Roche, Blaud, Pujol, of Montpellier, Tanquerel des Planches,* and some others. While it is allowable to infer, from these facts, that atony of the organs of generation is not the primary cause of chlorosis, we still acknowledge that the womb plays some part, but only a secondary one, in the disorder.

The theory which supposes the chlorotic condition to depend upon sanguine asthenia, producing vicious hæmatosis, with increase of serum, and diminution of fibrous colouring matter and iron, does not state the true nature of the malady, nor does it indicate under what pathological influence the disorders of the circulation, digestion, menstruation, etc., make their appearance. To go back to the probable origin of the disease, and explain all the derangements of the disease, which together constitute chlorosis, we

* Lancette Française, 18 July ,1837.

believe the primary cause of the affection to be nothing more than a general asthenia of the nervous system, and especially of the nerves of the ganglionic system, or of organic life presiding over the digestive, circulatory, nutritive and genital functions; in a word, it is faulty innervation, and imperfect action of the trisplanchnic nerve, that give rise to the group of symptoms constituting chlorosis.

[M. Colombat, in this paragraph, has properly stated that in chlorosis there is a vitiated *hæmatosis*, which has a strong influence upon the malady; and he continues his remarks upon the condition of the blood, in his two subsequent paragraphs. It has been recently shown by M. Andral, in his work on Hæmatosis, that the constitution of 1000 parts of healthy blood is as follows, namely, water 790 parts, albumen 80 parts, blood-discs 127 parts, and fibrine 3 parts = 1000; and he shows that, in plethora, the quantity of the solid material increases, carrying up the figure for the disc to 130 and even to 150, the albumen to 90 or 100, and reducing the figure for the water in proportion to the rise of the figures for the solids. In the opposite or anæmic state, the figure for water may rise from 790 to 850, or even to near 900, while the disc descends, in some cases, to 100, to 60, to 30, and even as low as 20.

It appears to me to be very clear that these mutations in the quantity of the constituents of the blood, cannot exist without carrying great disorder into all the varied functions of life. It is to be believed that the power of the brain, and of the whole cerebro-spinal axis, has the closest relations to the constitution of the blood, and the momentum or rate of its motion in the vessels of the brain and the system at large, and that a healthful and natural state of that fluid will produce a due and exact innervation, while a feeble, watery and unhealthy blood must produce a feeble, irregular and imperfect innervation of all the organs of the body, which, under such circumstances, not only exert their secerning, accretive, and development-powers feebly and imperfectly, but by the very fact of their own failure, extend the derangements to all the parts on which they can exert any sympathetic force. But the development of the Graafian vesicle is one among the transcendental and extraordinary powers of the economy: one, requiring for its execution the attainment of the womanly age and the enjoyment of a sufficiently good health. Hence, when anæmia is considerable, it is common to find a failure in the vesicular development, an amenorrhœa, and a consequent exhibition of morbid symptoms, which grow cumulatively, one being drawn in after another until the whole health is depraved or even totally lost.

M. Colombat very judiciously refers the first cause of chlorosis to a general asthenia of the nervous system, but principally of the ganglionic part of it. This is doubtless true; but what is the precise point at which dwells the proximate cause of the disorder? It is, I suppose, seated in the textures that have the most immediate relation to the hæmatosis. If we go back to first principles, we shall be obliged to admit that the fault in the hæmatosis

is a fault of innervation, but yet that fault must be traced to the innervation not of an abstract constitution, but of some special membrane or tissue, as the *membrane commune*, as Bichat calls it, of the sanguiferous apparatus. Here is the seat of the power by which the chyle is converted into blood. The elaboration of the blood into its constituents of fibrine, discs, albumen, and water, depends on the vital force of the lining membrane of the blood-vessels; it is there alone that the fluid poured into the vascular cyst, from the great chyle tube, has any contact or connection with the living body. Have we not a just ground, then, to believe that the proximate cause of the anæmic malady is one seated in this blood-vessel tissue? It is probably true, as M. C. observes, that an inefficient action of the trisplanchnic nerve gives rise to the symptoms that constitute chlorosis; and yet it is quite as probable that disorders in the vessels themselves may, in many cases, originate the diseased state of the blood, which, as I have already said, implicates such great and extensive vices of the innervation. It cannot have escaped the most careless observation, that a violent excitement of the circulation is rapidly productive of vitiations in the constitution of the blood, which, in order to its attaining its real normal character, demands a momentum or rate not varying greatly from some seventy pulsations per minute for the adult. I regard some vitiation of the constitution of the blood as one of the true elements of the chlorotic condition, and even as one of the chief of the pathological characteristics of the malady. It is true that a merely watery or hyperhydræmic state (as M. Colombat calls it) of that fluid will not constitute the malady in question; for it is clear that the symptoms of the affection depend upon the failure, more or less complete, of many vital functions, arising from the imperfect extrication of the nerve power of the whole cerebro-spinal system, including the ganglionic apparatus. These derangements will exhibit themselves in disordered respiration, circulation, secretion, digestion and nutritious absorption; all of which must receive a due share of regard in making out a method of treatment. Among the disordered secretions, those of the reproductive apparatus are not the first in order of importance, and are generally the last to resume their healthful rate and character; a return to which is the sign, rather than the cause, of restoration to full and vigorous health.

From this I deduce the inference that, in chlorosis, one of the great desiderata should be to give to the sanguine circulation its just number of pulsations, to restore to the vascular membrane its healthful metabolic force, and, by re-establishing the normal figures for the several constituents of the blood, restore to the constitution all its powers of innervation and development. The means within our power, for the attainment of this end, are numerous and energetic, of undoubted efficacy, and requiring only to be understood in order to render the intervention of the physician as useful in these mysterious and hitherto misunderstood affections, as are the lancet in the treatment of croup or pleurisy, or the Peruvian bark in the cure of intermittents.—M.]

The experiments recently made by M. Dupuy,* member of the Academy, militate in favour of the opinion we have just expressed, and seem to prove positively, that chlorosis is a nervous affection, inducing secondarily excess of serous blood, a sort of *aqueous* hæmatosis, which might be designated by the term *hyperhydræmia*.† This opinion, it seems to us, explains not merely the various derangements of the circulation and imperfect performance of other functions, but is also in perfect harmony with the mode of development, the progress of the symptoms, and the nature of all the consecutive phenomena. We ought to say, however, then, as chlorosis is confined almost exclusively to the female, and, moreover, as the uterus is deranged, in the majority of cases, it seems very probable that a diseased state of that organ may be the most common point of departure of the vicious innervation of the organism which constitutes the chlorotic disorder.

Though chemistry has revealed to us the presence of iron in the blood,‡ and though this element seems to exist in smaller quantity in the blood of chlorotic persons, we cannot admit, with M. Pujol,§ that the affection under consideration is the result of a deferrugination of the sanguine fluid; even if a want of the iron were found to be the material condition of chlorotic blood, which is far from being proved, it would still be necessary to seek out the primary causes, and ascertain the source of this change.

The predisposing causes of chlorosis, which we prefer to call *hyperhydræmia*, are numerous and various. Some of them are general, and others peculiar to individuals. Amongst the former, we rank the female sex; the age of puberty; hereditary predisposition; rapid and premature growth; a feeble, melancholic constitution; a lymphatic, scrofulous or nervous temperament; the privation of the physical enjoyments of love, or their abuse; the state of widowhood; onanism; sudden and continued suppression of the menstruæ, and their too great abundance; frequent hæmorrhages, and finally, any circumstances which may interfere with a proper innervation, as for example, depressing moral emotions, disappointments, grief, sadness, captivity, and the melancholy which accompanies unfortunate love;

Palleat omnis amans, color hic est aptus amanti, (*Ovid.*)

The *general causes* of chlorosis are living in low, damp, and cold

* At the meeting, held October 31, 1837, M. Dupuy communicated to the Academy of Medicine that, in experiments which he has made upon horses, the division of the pneumogastric nerve always enabled him to observe a progressive diminution of the fibrine of the blood, during the few weeks that the animals survived the operation.

† We just now observe, in Mess. L. Delaberge and Monneret's excellent compendium, that Doctor Copland, (*Dict. of Pract. Med.*, p. 317,) also regards chlorosis as the result of asthenia of the great sympathetic nerve.

‡ M. Barruel conceived the ingenious idea of making a medal from the iron which might be collected from the blood of a subject. The wife of one of the celebrated members of the Ecole de Médecine of Paris, wears a ring made of iron, which was extracted from blood taken from her husband, during the course of a severe disease.

§ Memoire sur la chlorose; Séance de l'académie de Médecine, 31 Octobre, 1837.

situations, secluded from the solar rays, as in quarries, mines, dungeons, the cellars of weavers, in low workshops, in valleys of great depth, which are shaded by wood, and in the sombre, narrow, and badly-ventilated streets of large cities. Periods of famine, continued use of heavy indigestible and decomposed food; the indulgence in warm aqueous drinks, or in the excessive use of vinegar, of green fruit, and all crude articles; excessive fatigue, and finally, the want of exercise, and a sedentary, lazy and voluptuous mode of life, are all causes of the nervous asthenia, which gives rise to the derangement of the functions constituting chlorosis.

*Symptoms.* No disease inspires more tender interest, or more touching compassion, than the state of paleness, suffering and languor, observed in a young chlorotic girl; like some delicate plant, deprived of the beneficent rays of the sun, she is a flower which withers and droops away even before its blossoming.

The approach of chlorosis is marked by a state of habitual inertia and melancholy; the patient becomes sombre and taciturn, weeps without cause, and sighs involuntarily; the face becomes bloated; the expression is, as it were, veiled; the eyes sad and languishing; the eyelids, which are swollen, especially in the morning, are encircled by a blackish areola, strongly contrasting with the pearl-white colour of the sclerotic coat and the pallor of the lips; the skin, particularly of the extremities, is dry and cool; the pulse frequent, rather large and less easily compressed; the respiration is difficult; digestion is deranged; the alvine dejections become white, hard, and sometimes fluid; palpitations and fits of pandiculation make their appearance, while debility, lassitude, a desire for sleep, or rather for repose, as well as the whole collection of symptoms, augment from day to day.

The patient feels frequent inclination to make deep and very strong inspirations, a symptom which is excited and increased by walking, by ascending, by slight exercise even, and finally by any mental emotion. Auscultation generally shows the impulse of the heart to be stronger than natural. The carotid arteries, which beat with great force, are the seat of certain anormal sounds. Sometimes we have a simple bellows-sound, or a bellows-sound *à double courant;* at other times it is a prolonged vibration and a kind of humming, described by M. Bouillaud, under the name of *bruit de diable*, from its resemblance to the noise produced by the child's toy, called the *diable.* These anormal sounds, which are symptomatic of chlorosis, and which become more evident whenever the patient makes any exertion, may be perfectly heard in the carotid and subclavian arteries, and sometimes to a less degree in the crurals. By compressing these vessels slightly, taking care not to interrupt the circulation entirely, we are enabled to hear a kind of roar, that is disagreeable to the ear. If the patient make a lengthened effort, the sounds suddenly cease, just as they diminish and at length disappear in the cervical arteries, when we push aside the larynx from near the vessel in which they are produced. The *bruit de diable* to

which M. Bouillaud* first called the attention of the profession, has been explained in a very ingenious manner by Doctor Beau,† in a memoir inserted in the *Archives Générales de Médecine*, for the month of February, 1838. This young physician, who has devoted himself, with the utmost zeal, to the pursuit of science, has ascertained, as we ourselves have been enabled to do, likewise, that in well-marked chlorosis, that is to say, chlorosis accompanied by arterial sounds, the volume of the arteries is in proportion to the intensity of the chlorosis and to that of the sound; the size of the vessels diminishes as the disorder is approaching to a cure, and as the humming noise becomes less sensible. The pulse seems, in some cases of chlorosis, to be small because it is soft and very compressible. It is soft, because the blood is watery and very gently impelled by the action of the heart, which organ is not duly stimulated; it is full and well developed, however, from the fact that the sanguine fluid is in excessive quantity, though serous, pale and deficient in fibrine. It is the augmentation of the serous portion of the blood in chlorotic patients—it is the aqueous plethora, so to speak, called by us *hyperhydræmia*—that produces all the plethoric symptoms, and the *turgor lymphaticus* which accompany chlorosis.

Blood drawn from the venous system, and from leech bites, is pale and aqueous; the clot is soft and diffluent; the animal heat is diminished; the lips, nose, hands, and all the organs situated at a distance from the centre of circulation are cold and almost icy; the general cellular tissue becomes the seat of a serous turgescence, which is especially observable about the eyelids and face. The

* Recherches sur les divers bruits du cœur et des artères, Journ. hebd., t. ix., p. 560, 1833.

† Doctor Beau supposes the *bruit de diable*, observed in chlorosis, to be caused by the shock of the blood against the arterial walls, and the want of due proportion between the exaggerated sanguine wave and the size of the vessel. This plethora, *sui generis*, which seems the more paradoxical, because it is acknowledged that there is diminution in chlorosis of the mass of blood or *anæmia*, becomes explicable, nevertheless, when we reflect that most of the chlorotic symptoms belong to plethora, as for example the vertigo, the dazzling of the eyes, the tinnitus aurium, the cephalalgia, the dyspnœa, the palpitations, the turgescence of the face, somnolence, etc. The superabundance of the sanguine fluid coinciding with paleness, languor, arrest of nutrition, and other *anæmic* symptoms, is nothing more than an increase of the serous parts of the blood, which fluid is impoverished and deprived of its nutritive qualities. If we admit an augmentation of the mass of the blood, in consequence of the excess of serosity which it contains, it is easy to understand how, from the calibre of the vessels being no longer in due proportion to the volume of fluid which passes through them, there must result a shock and friction against the walls of the arteries, which give rise to the different sounds symptomatic of chlorosis. The idea of a serous plethora, which we have denominated by the term *hyperhydræmia*, was maintained by Berner, (*de plethora cum cacohymiâ complicatâ,*) by Gœlicke, (*de cacohymiâ plethoræ pedisequâ.*) and by Buchner, (*de crebiore sanguinis missione fecundâ plethoræ genitrice.*) M. Beau also quotes a passage from Boerhaave, (*de morb. nervorum*, t. i., p. 158,) which proves, that that illustrious physician regarded chlorosis as the result of a superabundance of serous blood. "The fluids are in excess over the solids, and their motion is retarded, because the mass to be moved is augmented while the moving force remains the same. The body soon becomes inactive; the young girl becomes swelled, and grows pale; for, to speak truly, she does not lose the red portion of her blood, but acquires more of the white than is necessary, in proportion to the red."

inferior extremities, particularly the ankles, become œdematous, a condition which is most marked towards evening, and which, according to Gardien, differs from that of common anasarca, in not retaining the impression of the finger.

As the disease progresses, the functions of the stomach are more and more deranged; the strangest and most depraved tastes manifest themselves; the patients prefer the most sapid substances, such as salt, vinegar, green fruits; they often seek, with avidity, indigestible substances, and such as are in no way nutritive, as charcoal, chalk, plaster, earth, ashes, spiders, flies, and other equally disgusting insects. The appetite gradually diminishes until complete anorexia is established; at other times, on the contrary, it is increased beyond measure, while the ingestion of food is followed by a sensation of weight at the epigastrium, by malaise, and sometimes by vomiting. The tongue is generally large and covered with a mucous coat; acid regurgitations, and frequent nausea occur, especially in the morning; a feeling of heat and weight in the epigastric region, and sometimes nervous pains in the course of the œsophagus, and extending through to the shoulders, make their appearance. Finally, the patients experience alternations of constipation and watery diarrhœa. The alvine dejections are white, while the urine small in quantity, is pale and limpid, as in all the nervous affections.

The sexual organs are commonly affected with an abundant leucorrhœal discharge; most generally there is failure or suppression of the menstruæ; at other times they persist and last longer than natural; but far from alleviating the sufferings of the patients, the return of the menses is accompanied by the most diverse nervous disorders, by uterine cholics, by pains in the loins, and great depression; by a kind of stupidity even. When menstruation continues, the secreted fluid, which is pale and watery, separates upon the napkin, into two distinct portions, and forms spots, which lose their colour by drying. The nervous system participates in the general languor of the functions; the patient is sad, melancholy and indifferent to all enjoyments. She seeks solitude, sighs involuntarily, and weeps without cause; she is often tormented by sinister ideas; her temper is capricious, odd and irascible; for her, all thought of happiness is gone, and in her despair she often speaks of suicide; finally, the night, far from procuring repose, brings her only broken slumbers and frightful dreams.

To these disorders of the intellectual and sensitive apparatus, there are sometimes added the most discordant nervous symptoms, such as tinnitus aurium, vertigo, partial loss of sight, tremors of the limbs, cephalic, cervical and dental neuralgia, peculiar palpitations in the epigastrium, and, in some rare cases, hysterical symptoms even.

When the progress of the disease is not arrested, the symptoms become more and more aggravated; the head becomes the seat of severe pain, felt mostly in the occiput; the skin assumes a greenish or earthy hue; the abdomen is hard and tumid; thirst arises; the dyspnœa, faintness and palpitations are increased; diarrhœa, as well as hectic fever, creep in; daily exacerbations occur, and the emaciation makes rapid progress. Finally, incipient general infiltration,

extreme feebleness, invincible repugnance to all kinds of exertion, alteration of the features, and a pale, violet colour of the lips, forebode approaching death, which comes at last without shock and almost without pain, surprising the patient under a complete state of marasmus. We shall close by stating that the duration of chlorosis has no fixed limit, but that when properly treated, it commonly terminates by a return to health in from one to two months. Yet of twenty-eight patients treated by M. Blaud, of Beaucaire, one-third recovered in less than twenty days, and a single case only was protracted to the thirty-second. (*Revue Méd.*, t. i. p. 387, 1832.)

*Differential Diagnosis.* Though the symptoms of chlorosis are, generally speaking, well marked, the diagnosis of the disease is not devoid of all sources of error; we shall proceed to mention the chief pathognomonic characters of the diseases which, from the paleness and general loss of colour which accompany them, bear in that respect some resemblance to chlorosis.

Of all morbid conditions, *anæmia* is the one which most resembles chlorosis; the analogy existing between these two affections is so great that M. Andral, (*Anat. Pathol.*, t. i) , regards them as one and the same disease; amongst the symptoms common to both, are classed: paleness and decoloration of the skin, conjunctiva, lips and buccal mucous membrane; shrinking and disappearance of the subcutaneous veins; muscular debility; fainting on the slightest exercise; œdematous engorgements; derangements of the gastro-intestinal functions, and identical auscultative phenomena. Although these symptoms exist both in chlorosis and anæmia, we can distinguish those belonging to the former disorder, from their being always carried to a higher degree and accompanied by nervous symptoms so marked as to form one of the essential characters of the malady. We can detect differences that will enable us to form a correct diagnosis by a reference to the causes and by a consideration of the course of the disease. The progress of chlorosis is generally slow; it occurs almost exclusively in women at the epoch of puberty, and often takes its rise without known cause or appreciable lesion. Anæmia, the source of which is almost always easily discernible, commences, on the contrary, rather suddenly, especially when it succeeds to spontaneous or secondary losses of blood. Moreover, it is met with in both sexes, and at any age. The chemical analysis of the blood might also assist in clearing up the diagnosis: in chlorosis, there is superabundance of serous blood, whilst in anæmia properly so called, which is a transient condition, we have simple diminution of the mass of the blood. The former disease causes paleness, because the sanguine fluid itself is deprived of colour, while the same phenomenon occurs in the latter only because the vessels are almost empty and in some sort exsanguineous.

[I have been accustomed to confide, in a good measure, in a mode of diagnosis which I beg leave here to suggest as an useful one.

Every instance of anæmia is not discoverable always upon inspection of the tint of the skin, nor upon a survey of the state of the patient as to her

embonpoint, since, in some anæmic individuals, the cheek and lips retain a considerable degree of freshness and vivacity of colour from a natural exuberant vascularity of the tissues composing them; and there are not a few anæmic patients who even grow fat during the malady. Now I should in such a case test the state of the lungs by asking the patient to make several forced inspirations, in order to discover whether the capacity of the lungs for atmospheric air were at all lessened by disease—and should she appear to be able to inhale fifty or sixty cubic inches at an inspiration, I should have a right to conclude that the air-cells of the lungs were free from pressure or obstruction, and duly expansible. This view might be confirmed by percussion and by auscultation of the chest. Still the respiratory difficulties remain to be accounted for, especially those proceeding from every muscular effort.

I should next examine the frequency of the pulse, which, in a state of rest, might be sufficiently quiet—as at 70, or 80, or 90 beats per minute. If now the patient be requested to walk to the head of the stairs, and return immediately to her seat, she will, if anæmic, be found to have the pulse greatly accelerated and beating in the most troublous manner, to the number of 120, and even 160 pulsations per minute, while her respirations may amount to 40 and even 60 per minute. This fact serves to disclose the existence of the anæmic state, which, in order to effect any powerful innervation as exercise, &c., requires this great and extraordinary precipitation in the movements of the heart.

M. Colombat is for the most part so correct and so philosophical in his opinions, that it might be considered in some degree unsafe to controvert the inferences which he makes, and always surrounds with a strong fortification of arguments and well-selected facts. In the opinions he sets forth in some of the preceding paragraphs, he opposes the belief that an altered crasis of the blood plays a prime important part in the maladies grouped under the head of chlorosis, and that anæmia is not chlorosis—and *vice versa*. But, seeing that no case of chlorotic disorder can well exist without implicating the constitution of the blood, I am tempted still to defend an opinion that regards that fluid as greatly, or even principally, concerned in the production of the malady.

Nothing is truer than that the lining membrane of the sanguiferous system is liable to alterations both functional and physical. These alterations are frequently met with in endocarditis, and it is a well-established truth that most extensive disease of the *membrane commune* of the veins is met with in some forms of puerperal disease, as in uterine and crural phlebitis, for example. It is also common to observe the *membrane commune* of the great arterial trunks presenting the signs of disease in the form of engorgement thickening and red inflammatory injection.

If, then, it be admitted that this *membrane commune* be capable of pathological modifications, it follows that all the life-powers of that membrane

must also be liable to modifications. Now, what are these life-powers—what are the offices or functions of the *membrane commune?* No man at the present day can propose to limit those powers to the mere physical agency of containing the blood! On the contrary, it cannot be denied that the constitution of the blood is some how intimately connected with, and probably in immediate dependence upon the biological state of this very tissue. All the products of the nutritive digestions, after passing along the lacteal tubes and trunk, are poured as chyle, (*not as blood,*) into this membrane, and as that chyle never afterwards touches any other tissue, it is clear that in the contact or nerve-influences of that tissue resides the faculty of converting the chyle into blood and of converting it into healthy normal blood, or of failing so to convert it; whence it appears that the spontaneous and pathological modifications of the blood, as to its crasis, are to be sought for in the agency of this very membrane; and that, whether the mutation be into the state of plethora or into that of anæmia.

It is hardly necessary to follow, even were it possible, to its most recondite and hidden depths in the innervative powers, the sole unique principle of that power which ought to give to the body in health a blood consisting of discs 147—albumen 80—fibrine 3, and water 790=1000 parts. The anatomist will never, perhaps, succeed in unraveling the real nerve filaments that endow this membrane with its biological forces; but should he attempt it, he will doubtless seek to trace them from the nerves that supply the various organs, viscera or parts throughout which the membrane is distributed, as in the spleen, the kidneys—in the stomach, the eye, &c., wherever a vessel runs there also is a nerve fibril, which constitutes not only a part of the organ, but also a part of the vessel itself. Wherefore, every organ plays its part or contributes of its peculiar influence to modify the vitality of its own *membrane commune*, and thereby to modify the crasis of the blood while within its limits, and for the time a part of its nature. See, therefore, what an immense, and what a varied influence is that the blood is subject to as it courses among the tissues, of which it is always the bond that unites them to the organs with which they stand connected throughout the entire economy.

These observations, which are offered in brief, may suffice to show why I cannot accede to M. Colombat's views as to the trifling nature of the rôle played by the fluid in question in the chlorotic affections. They show that (supposing my opinion well founded) the blood may be greatly in fault in these cases, and it must be quite unnecessary to advance arguments to prove that with a weakened, dilute, pale, ill-animalized blood, we must look for all the results of that feeble innervation which attends the presence of a weak blood in the vessels.

There can be no sound normal healthful innervation without a normal equable lateral pressure of a healthy blood. Muscular weakness is one of the first manifestations of its presence, and organic or visceral debility follows in rapid succession; development goes on slowly, or reluctantly and imperceptibly—

all the powers of the economy are devoted, under such circumstances, to carry on the more important actions in the scheme of life, while the lesser ones, the outposts, are overlooked or abandoned.

What more need I say—the *travail ovarique* is suspended; no more development of Graafian vesicles; one viscus after another becomes involved in disease, and the patient falls, at length, the victim of a malady whose prime seat and throne were in the *membrane commune* of the common vascular sac which contains all the blood of the body.—M.]

*Jaundice* may readily be distinguished from chlorosis, by the yellow colour of the skin and by the nature of the stools and urine; by the yellow tint of the sclerotic coat of the eye, which is always pearl-white in chlorosis, and finally, by the absence of nervous symptoms, of palpitations, and particularly of anormal sounds in the arteries. We may avoid mistaking anasarca for the affection under consideration, by recollecting that the œdematous turgescence, observed in the feet and legs, and sometimes over the whole surface of the body, is but momentary in chlorosis, and that though observable in the evening, it disappears in the course of the night. In addition, the œdematous swelling, the *turgor chloroticus*, does not retain the impression of the fingers as does anasarca, unless the disease has reached a very advanced stage. The paleness, the dyspnœa, the palpitations, the anormal sounds in the heart and arteries, the dizziness, and the œdematous enlargement of the limbs which we meet with in chlorosis, are so many symptoms of organic disease of the heart. In this condition, a mistake may have serious consequences, for the treatment is essentially different. Nevertheless, the appearance and sudden cessation of the phenomena, especially of the anormal sounds of the heart, and the symptoms of cerebral congestion occurring at intervals, will prevent our believing in the existence of a permanent organic lesion. Moreover, the connection of the symptoms, the age, sex and temperament of the patient, the character of the pulse, the march of the disease, and finally, the amelioration which follows the use of martial preparations and tonics, will suffice, in the greater number of cases, to establish a correct diagnosis. It is well, furthermore, to recollect, that in diseases of the heart, the skin is less altered, that the cheeks generally retain their colour, that the face is sometimes tumefied, and, finally, that the lips are livid and swollen, which is not the case in chlorosis. We deem it useless to speak of the differential diagnosis of this disease from degeneration and chronic affections of the stomach, from gastritis, tympanitis, intestinal irritation, etc., which often occasion paleness, bearing some resemblance to that which follows the affection forming the subject of our chapter. We shall likewise pass by in silence the different cancerous and tubercular degenerations which, at a certain period of their progress, have as one of their symptoms a yellow straw colour. All these diseases reveal themselves to the observer by their pathological localization, and they exhibit distinctive characters and corroborative circumstances, which may prevent us from confounding them with the affection now under consideration.

The *prognosis* of chlorosis, when the attack is simple and of recent date, is favourable; it is not at all dangerous in itself, and often disappears upon a mere change of air and regimen. When the patient can be placed under favourable hygieinic and moral conditions, it is surprising to see the rapidity of the cure. Under the influence of a well-directed therapia, we often see a life, which seemed about to be extinguished, almost instantaneously reanimated. But when the disease is left to itself, or combated by irrational treatment, it often becomes complicated with organic lesions of the stomach, heart, lungs, liver, spleen, and with various dropsical affections, which speedily conduct the patient to the tomb. As there is no definite duration for the periods of the disease, the prognosis can be based only upon the length of the attack, and the nature of the complications. We ought, also, to take into account the constitution of the subject, and her mode of life, occupations, and hygieinic circumstances. Chlorosis, appearing after the establishment of menstruation, is more unfavourable than when it occurs in a young girl not yet regulated. It is generally believed, that chlorotic women are almost always sterile, or at least give birth to feeble and sickly children only, but we think that this opinion is correct only in regard to persons in whom the disease presents great intensity, and when it has been of long standing.

The *treatment* of chlorosis includes two principal indications; to remove, as far as possible, the predisposing causes and appreciable morbific influences which have produced or maintain the disease, and, at the same time, to resort to measures calculated to impart energy to the functions of nutrition and sanguification. For these reasons, we divide the treatment into the *hygieinic* and *pharmaceutical.*

Whatever may have been the cause that has brought on the chlorosis, we should remove the patient from all exposure to cold and humidity; she should breathe a dry, pure and moderately warm air, and it is for this reason that spring and autumn are most favourable to the cure of the disease. A dry, breezy situation, in a sunny exposure, ought to be recommended. Clothes which, by the nature of their tissue, slightly irritate the skin, are to be preferred to any others. Flannel worn next to the skin, and especially alcoholic and aromatic frictions of the whole surface of the body should likewise be proposed, with the view of exciting the action of the capillary vessels, of inviting the blood into them and promoting perspiration. The food must consist of roast meats, fresh eggs, farinaceous vegetables, ripe fruits, and bitter and aromatic plants, for example, succory, and celery. As a drink during meals, we may employ with advantage a mixture of chalybeate water, with Bordeaux, or still better, with Burgundy wine, which contains a large quantity of astringent matter.* Between the repasts the patient may allay her thirst with some refreshing, slightly acidulated drink. Nevertheless, though a

* We might prepare the gaseous *eau ferrée*, with Doctor Quénesville's powder. This solution, which is of easy administration, is generally taken by the patients with pleasure.

careful regimen ought to be strictly observed, it is not well to be too exclusive; if we meet with great reluctance in giving up the injurious articles which the patients desire, it would be necessary, at first, to respect their longings, however strange they might seem, and even to satisfy them, unless they were directed to substances evidently hurtful. We should always commence by regulating the meals, by forbidding fruit, salad and all crude articles; we ought, moreover, to consider the digestive functions, and wholly proscribe nothing but known indigestible articles.

Whatever be the aversion to exercise felt by chlorotic persons, we ought invariably to insist upon its employment, regulating it, however, by the state of the strength. Should the muscular debility be so great as to prevent the patient from walking, we must resort to mixed and passive exercises. Riding in a carriage, or still better, on horseback, especially if a man's saddle is used, in open and elevated places, when the air is pure, are proper modes of exercise, particularly if pleasant conversation can be added to the charms afforded by diversity of views and landscapes. Boating-excursions, which exert a favourable effect upon all the organs, and which unite to all the advantages of exercise, that of being agreeable to young persons, and of producing an useful stimulation by the presence of individuals of the opposite sex; music, which occasions a salutary excitation in lymphatic persons, and finally, sea-bathing, and swimming in running water, are different hygieinic means which it is well to recommend to nervous, sad, melancholy women, and to those of great moral sensibility. Travelling cannot be too strongly recommended to persons in whom the disease is kept up by acute sorrow, or by any moral affection whatsoever; the use of mineral waters taken at the springs, offers, in this respect, incalculable advantages, not only from the medicinal action of the waters themselves, but also, because the patients enjoy at such places the various charms of a numerous and brilliant society, and attractions which are constantly changing. The springs, which have been most strongly recommended, are those of Spa, Plombières, Vichy, and Pyrmont.

The use of very tight corsets ought to be forbidden; sleep should not be protracted beyond eight or nine hours, and care must be taken that the patient's bed be neither too warm nor too soft, because such beds often increase the feebleness and constipation of very sensitive women, especially those in whom the chlorotic state has been developed, and maintained under the influence of disappointed love. We should forbid exciting drinks, the use of wine, and highly nutritious food; vivid emotions; the frequenting of balls and shows; the reading of high-wrought romances; the examination of lascivious pictures, and finally, we should, as far as possible, suppress all circumstances capable of disturbing the sensibility, or of exciting the passions too strongly. It is in such cases as these especially that we ought to insist upon sedative drinks, warm baths, and especially upon some means of diversion to be kept in constant action.

The *pharmaceutical treatment* of chlorosis, whether accompanied by derangements of the menstrual flux or not, consists in restoring

the tone of all the functions, by means of a tonic and excitant medication. Of all the therapeutical agents, iron is the one which should be placed in the first rank, on account of its constant efficacy. This metal, regarded with good reason as a specific in chlorosis, has been employed alone, and associated with a number of other remedies, such as the extracts of succory, parsley, absinthium, gentian, blessed-thistle, cinchona, rhubarb, etc. It has also been prescribed in combination with emmenagogue substances, as, for example, saffron and aloes, etc., or with canella, conserve of roses, anise, tartrate of potash, lemon-juice, chocolate, white wine, (and vinum ferri.) Finally, it has been ordered in all its different forms; in the minutely divided metallic state, in the state of oxide, (æthiops martial.) in the state of salt, sulphate of iron, (green vitriol,) tartrate of potash and iron, (*boule de Nancy*,) and subcarbonate of iron, which is at present preferred, either incorporated with syrup, into an electuary, or administered in the form of pills, of pastilles, of powders, etc., and in doses of from six or eight grains to half a drachm, or a drachm, two or three times a day.*

Doctor Blaud, of Beaucaire, supposing that the subcarbonate of iron does not exert all its curative properties, unless so modified as not to be rejected by the absorbent orifices, and unless given in sufficient doses, has proposed the following formula as best fulfilling these two essential conditions. ℞. Sulphate of iron, and subcarbonate of potash, each half an ounce; reduce them separately to a very fine powder; then mix very thoroughly, little by little; add a sufficient quantity of mucilage of gum tragacanth; beat strongly in a mortar, and make a mass to be divided into forty-eight boluses. "There results, from this mixture, a mutual decomposition of the two salts. The subcarbonate of iron thus formed, being in a state of extreme division, becomes more readily absorbable, while at the same time it acquires from its chemical composition, greater activity. The sulphate of potash, which is also present, greatly favours its absorption by determining its movement along the mucous membrane of the digestive tube by the contraction it produces, and by exciting the lymphatic absorbents situated upon it."†

M. Blaud directs a pill to be taken early in the morning, and in the evening upon retiring, during the first three days. On the fourth, fifth, and sixth days, he adds a pill at mid-day; the seventh, eighth, and ninth days, two pills in the morning and two in the evening; the tenth, eleventh, and twelfth days, two more in the middle of the day; the thirteenth, fourteenth, and fifteenth days, three pills in the morning and three in the evening; the sixteenth, and following days, four pills three times a day. He continues this dose long enough to dissipate the symptoms of the disease, and then returns gradually to the smaller doses, as at the commencement.

* The English physicians, particularly Doctor B. Hutchinson, have found great benefit from the use of the subcarbonate of iron, carried to the dose of from one to three drachms daily, taken at three different periods. Edinburgh Journal, vol. 18, pp. 321 and 411.

† Mem. sur les Malad. Chlorotiques, Revue Méd. t. i., p. 337, 1834.

Scarcely, says M. Blaud, is the remedy introduced into the economy, whatever be the duration and violence of the disease, before a sensible improvement is observed; this appears sometimes on the second, or even on the first day of the treatment, after years of suffering, and most singular, without the aid of any auxiliary treatment. We have but to note a progressive, and generally a rapid amelioration, whose course nothing suspends, even in individuals labouring under cardialgia, diarrhœa, etc., symptoms which would seem to contra-indicate all tonic medication. At first a light rosy tint appears upon the cutaneous surface, chiefly upon the face, and the eyes assume the lustre which they had lost. At the same time, or a little later, the symptoms of nervous disturbance, the gastralgia, which nothing could calm, the insomnia, the buzzing in the ears, the cephalalgia, which had resisted all remedies, sensibly diminish, and before long disappear. The respiration, also, becomes freer, the pulse less frequent, the palpitations less severe and more rare, the infiltration of the limbs is dissipated, the muscular force is re-established, appetite returns, the moroseness vanishes, a feeling of general comfort succeeds to the wearing misery which rendered the life of the patient so deplorable, and all the organic functions soon return, as if by a miracle, to their normal state.

[The author appears to have confined himself solely to the recommendation of Blaud's pill, as a chalybeate remedy in chlorosis; and perhaps that preparation does in fact combine all the activity and convenience desirable in any ferruginous formula. Nevertheless, as not a few persons are to be met with, who appear insuperably opposed to the use of pills, and as his pills are of ten grains weight each, it is highly convenient to have other formulæ that may suit their tastes or prejudices, which, in medical practice, ought, to a certain extent, to be respected. M. Raciborski, in his ingenious and most valuable work, *De la Puberté*, &c., gives high praise to the combinations of the oxyde of iron with weak acids, under the supposition that they most readily yield their place to the new combination of principles that ought to take place in the stomach. With this view, he recommends strongly the citrate of iron, &c.

I have made most advantageous use of a citrate of iron conjoined with sulphate of quinia; as in the following formula, which I subjoin as a very convenient and successful one, in the disorders dependent upon anæmia:

Take of citrate of iron, 2 drachms;
Sulphate of quinia, ½ drachm:
Water, 1 fluid ounce;
Mix, and direct from 20 to 30 drops for the dose, in syrup and water.

Agreeably to M. R 's method, I advise the patient to take the draughts after each meal, within half an hour of the breakfast, dinner or supper, so that it may be carried with the chyle along the course of the bowels.

The addition of the quinia to the ounce of water, renders the citrate and the sulphate perfectly soluble, as does also the addition of a few drops of ammo-

nia to a solution of the citrate alone; without some such addition, a part of the citrate of iron is not dissolved. Vallet's mass of the carbonate of iron is also worthy of much confidence; it is a most convenient and active ferruginous medicine. Made into pills of two to five grains each, it is found, in numerous instances, to remove, with great rapidity, the disorders of the circulation, connected with the anæmic and chlorotic states.

M. Raciborski highly recommends, as endowed with the two chief desiderata of great therapeutic activity and absolute insipidity, a metallic iron or impalpable powder. It is prepared by heating protoxyde of iron in a gun barrel, to redness, and then passing through it a stream of hydrogen. In the process, the hydrogen combines with the oxygen of the protoxyde to form water, and passes off, leaving the iron reduced to a purely metallic state, and impalpably fine. This is much used in France, in the form of lozenges, and is greatly admired for its curative power.

I have, on many occasions, directed my patients to purchase one or two ounces of Vallet's mass, and to take a piece as large as a pea, after each meal. This may be done with persons who are averse to the use of pills, and is a means of saving trouble, and even of avoiding the disgust and feeling of constraint apt to follow the prolonged use of a regular medical formula. M.]

The dose, to which the subcarbonate of iron should be gradually increased, is a drachm daily, but it is very important not to stop the treatment suddenly, just when a return to health is about to take place. M. Blaud advises a continuance of the treatment as long as may be necessary to dispel the symptoms, and he considers a gradual return to the earlier doses as very important in establishing the cure. At the same time that we subject the patient to this treatment, we should prescribe for her drink, during meals, either the natural ferruginous waters, as Spa, of Passy, or of Forges water, mixed with wine, etc., or simply water, into which has been plunged a piece of hot iron, or which has been prepared with the chalybeate powder of Dr. Quénesville.* To increase the efficacy of this treatment, or of any other of the same kind, it will be well to prescribe, at the same time, alcoholic frictions over the whole body, and the use of some slightly stimulating tisan, as an infusion of balm, of mugwort, of hyssop, of lungwort root, etc.

Other tonics might likewise be added to the iron, such as tisan of hops, of gentian, of the lesser centaury, of blessed thistle, etc.

In his thesis, No. 51, 1803, M. Ballard speaks of having derived good effects from the tan of the oak bark, or of the horse-chestnut. Tannin, extolled by Dr. Pezonni, is likewise an excellent therapeutic

* A gaseous chalybeate water may be prepared in the following manner: Take of crystallized sulphate of iron, 2 drachms; white sugar, 3 drachms; pulverize and make into twelve powders. Take of bicarbonate of soda, 2 drachms; white sugar, 3 drachms; pulverize, and divide into twelve powders. One paper of each of these powders is dissolved in half a glass of water; then the two portions of water are mixed and swallowed during the effervescence.

means in chlorosis; it may be administered either combined with opium, with iron, or in aqueous or vinous decoction; or else, which is preferable, in the pilular form, from sixty to one hundred grains being taken in the twenty-four hours, at different times.

Constipation, a symptom as constant as it is troublesome, must be treated by enemata and laxatives. Purgatives might also be employed with the same end; they often produce a stimulation which greatly assists the cure. Dr. Hamilton, who regarded constipation as the principal cause of the disease, recommended pills of aloes and gamboge, as well as the powder and the tincture of jalap. Rhubarb, in doses of from six to fifteen grains, taken just before eating, seems to us the most suitable remedy, from its tonic and purgative properties. Drastics should be resorted to with great reserve, and only where rhubarb and enemata have failed to relieve the constipation. They should be rejected in toto where the disease is far advanced, or complicated with a lesion of the stomach, liver or other viscera. Emetics, which were first proposed by Mercatus, physician to Philip II., King of Spain, (Gynœciorum, *sive de mulierum*, etc., 1554,) may be appropriate for cases in which the disease is complicated with some gastric disorder. Baillou (*de virgin. et mulier. morb.*, 1643,) relates that all the remedies employed for the cure of the daughter of a goldsmith, aged eighteen years, and affected with chlorosis, proved unsuccessful: but he adds that the young patient was thrown from a carriage, which caused her great fright, and brought on a very abundant vomiting of bile: from that moment her appetite returned, her face resumed its natural colour, and her health was perfectly restored in a short time. Should it be thought necessary to resort to an emetic, ipecacuanha ought to be preferred above all others, because of its less violent action and for the tonic properties which it possesses.

Electricity, recommended by MM. Sigaud-Lafond, Manduyt, Nauche, Loudon, and others, ought not to be employed, we think, except with great circumspection, and after we have restored to the blood and other fluids their physiological qualities. Without this precaution, electricity would be not only useless but dangerous, by increasing the disorders which depend upon the *hyperhydræmia*, or serous plethora, especially in those accompanied with determination of blood to the head or chest.

Though bleeding was prescribed by Van Helmont, Hoffman, Sydenham, Gardien, Désormeaux, and several other distinguished practitioners, we are of opinion that a small revulsive bleeding may be useful, where there is uterine engorgement with hæmorrhage, and in cases where the patients are tormented with violent palpitations and symptoms of very marked *serous plethora*. We conclude by stating that the nervous symptoms, the gastralgia, cephalalgia, facial neuralgia, melancholy, etc., commonly disappear very rapidly under the administration of iron and by attention to hygieinic indications, and do not require any special prescription. Furthermore, an attempt to recall the menses, when they have not returned spontaneously, should never be made until after the chlorosis is cured, and we are convinced

that the organs of assimilation have resumed their functions. For this purpose, we should combine emmenagogues, such as saffron, aloes, mugwort, etc., with the filings or with the subcarbonate of iron. Rufus's, and particularly Fuller's pills, in doses of twenty grains every morning, might also be prescribed conjointly with pediluvia, hip-baths, cups to the thighs and about the pelvis; and, indeed, most of the remedies which we mentioned when speaking of the treatment of amenorrhœa.

Should we discover, as Erasistratus did at the court of Seleucus, King of Syria, an amorous inclination to be the cause of the disease, we ought always to consent to marriage, not immediately, but where a well-directed treatment has restored the health, which would be fully established by following the precept given by Hippocrates: "*Equidem virginibus suadeo, quibus tale quid accidit, ut citissime cum viris conjungantur; si enim conceperint, sanæ evadunt.*" (Lib. de morb. virgin.)

To complete, as far as possible, what we had to say upon the disease which forms the subject of this chapter, we deem it proper to subjoin the only analyses that have been made of the blood of chlorotic persons.* By taking, as the point of comparison, the blood of a healthy female, and experimenting on one thousand parts, these analyses, due to MM. Fœdich and Lecanu, have furnished the following results:

| *Analysis of M. Fœdich:* | *Cruor.* | *Serum.* | *Fibrine.* | *Water.* | *Iron.* |
|---|---|---|---|---|---|
| Blood of a healthy woman, | 124.00 | 86.01 | 25.11 | 756.87 | 8.01 |
| Idem, . . . . . | 144.00 | 89.20 | 25.01 | 732.73 | 9.01 |
| Blood of a chlorotic patient, | 91.41 | 93.61 | 6.40 | 826.28 | 3.30 |
| Idem, . . . . . | 85.90 | 92.21 | 6.31 | 830.75 | 5.01 |

*Analysis of M. Lecanu.*—Blood from a chlorotic patient: water, 862.40; globules, 55.15; albumen, fixed, fatty and extractive matters, 82.45; total, 1.000. We see, from the results obtained by these able experimenters, that no doubt remains as to the increase of the water and the proportional diminution of the globules and iron in the blood of chlorotic persons.

## OF NYMPHOMANIA, OR FUROR UTERINUS.

By *nymphomania*, or *furor uterinus*,† is now understood an exaggerated, irresistible and insatiable desire urging the woman to the venereal act. This affection, upon which most of the authors of antiquity, amongst others Hippocrates, Galen, Celsus, Aretæus, Oribasius, and Paul of Ægina, observe entire silence, was first described by Soranus, under the title of μητρομανια, (*De utero et mulieb. pudendo;*) and from this author, by Aetius, under that of *furor uterinus*, and by Moschion, (*De affect. mulieb.*, cap. 28,) under the denomination of *satyriasis*. The physicians who have written upon this neurosis, disagree as to its seat: some have placed it in the genital organs, while others fix it in the encephalon. The former opinion is maintained

* [Vide Andral's Pathol. Hæmatol., Phil., 1844, pp. 43, 52.—M.]

† This disease is also designated by the terms *metromania, andromania, erotomania, hysteromania, clitorimania, lypatia*, etc.

by Soranus, Aetius, Moschion, Sennertus and Louyer-Villermay, and the latter by Willis, Sydenham, Boerhaave, Georget, Dugès, etc. Finally, some modern authors, amongst others MM. Soby and Rech, professor at Montpellier, in whose opinion we ourselves agree, regard nymphomania as resulting from a simultaneous irritation of the brain and sexual organs. This morbid exaggeration of the venereal appetite, this *œstus eroticus*, is less a disease than a symptom for the manifestation of which is required the concurrence of the brain and the organs to which erotic sensations are referred. The point of departure is sometimes in the brain, and sometimes in the uterus and its appendages. In the former case, the disease is developed under the influence of moral causes which secondarily irritate the genital parts, and in the latter, it is a primary irritation of the organs of generation reacting sympathetically upon the brain, and especially on the cerebellum.

The affection, which may appear at all ages, generally attacks women of an original uterine temperament, which is determined by the predominance of the sanguine system, and extreme irritability of the abdominal viscera. Women of this constitution have some of the characteristics of Sappho; their stature is small, their skin dark, and their complexion highly coloured; in them the breasts, and all the attributes of puberty, have been developed at an early period; the clitoris and the nymphæ, which are generally of anormal length, are endowed with exquisite sensibility. Young widows, who have to regret frequent engorgements, public girls who have been suddenly deprived by forcible seclusion of venereal pleasures, to which they had abandoned themselves to excess, ardent women, married to men whose cold and feeble constitutions prevent often-repeated sexual connection, and finally, those who are attacked with some chronic cerebral affection, are most exposed to this frightful disorder, especially when they inhabit warm climates, in which the passions are most vivid and the imagination most exalted.

There are some women, whose genital organs acquire such a preponderance, as to make it almost impossible for them to control the erotic flame that devours them; such was the young girl of whom Buffon speaks. "I have seen, and I have regarded her as a singular phenomenon, a girl of twelve years of age, a dark brunette, of a bright and highly-coloured complexion, of small stature, but already fully formed, with a rounded neck and embonpoint, perform the most indecent action at the simple appearance of a man; nothing could control her in this, neither the presence of her mother, nor remonstrances, nor punishments. Yet she did not lose her reason, and the attack, which was carried to such a point as to be frightful, ceased the moment that she remained alone with women." (*Histoire Naturelle de l'homme, de la puberté.*) Such, also, was the famous Messalina, of whom Juvenal, and Pliny the naturalist, give us the shameful and disgusting history. She escapes, during the night, from the bed where sleeps the Emperor Claudius, her stupid lord, and disguised in the dress of the courtezan Lycisca, hastens to encounter the brutality of the vilest debauchees:

"Et lassata viris, sed non satiata recessit."

Amongst the causes which act primarily on the brain and secondarily on the sexual organs, should be included all conditions capable of producing an accession of excitement in the centre of sensation, and of augmenting the exaltation of the senses and ideas; such as disappointed love, a concentrated affection, the reading of lascivious and impassioned works, the sight of licentious paintings, erotic and romantic conversations, intimate communion with governantes or corrupt companions, frequent visits to balls or theatres, the too assiduous cultivation of the fine arts, accidental sight of amorous interviews and the influence of imitation which, in this case, as in most of the nervous affections, is followed by consequences as deplorable as they are frequent. As equally capable of producing nymphomania are regarded the abuse of what are styled aphrodisiac remedies, or of spirituous liquors, the immoderate use of aromatics, and perfumes which, by exciting the brain and the general sensibility, arouse and exalt the venereal appetite.

The *causes* whose action is felt primarily and directly upon the uterus and its appendages, and which may afterwards react sympathetically upon the brain, are solitary pleasures, the abuse of coïtus, an herpetic affection or prurigo of the vulva, irritation of the clitoris and nymphæ, inflammation of the cervix uteri, and of the ovaries; we may add, that the age of puberty, and that of the physiological cessation of the menses, as well as the epoch of their flowing, are circumstances the most favourable to the development of the disease, which now occupies our attention. There is another frequent and not less powerful cause of exaggerated erotic exaltation, which is nothing more than the presence of ascarides, which, by irritating the rectum, the nymphæ, the clitoris, the labia majora and vagina, induce in the genital apparatus an excitement and pruritus, which compel the patients to scratch themselves to such a degree as to give rise to the most violent erotic desires. Finally, the use of drastic purgatives, hæmorrhoidal fluxions, and especially the internal or external employment of cantharides, have sometimes brought on an exaggeration of genital excitation.

*Symptoms.*—In the beginning of the disease, the female experiences venereal desires, which are strongest at the menstruating periods, but which shame compels her to conceal. The care which she takes to hide the obscene ideas that constantly disturb her imagination, as well as the illusions of platonic love which has irresistible charms for her, exalts her imagination, renders her sad, taciturn and melancholy; she loses her appetite and sleep, and seeks solitude in order not to be distracted from the thoughts with which her imagination is constantly preoccupied. After the disorder has made some progress, far from seeking to hide her irresistible passion, the patient employs all her address to make it known by frequent sighs, by encouraging proposals, by voluptuous attitudes, and finally by complete forgetfulness of all modesty. At the sight of one of the masculine sex the pulse of the nymphomaniac is agitated, her face becomes redder and more animated, her respiration tumultuous, her senses are obscured,

she makes indecent proposals, and often indecent gestures; finally, when the irritation reaches the highest point, she strikes, and tears every thing that opposes her, and at last falls into furious delirium. In addition to these essential and characteristic symptoms of the disease, there are commonly certain symptoms of insanity which may be remittent or perhaps intermittent, until some new causes reproduce them. The female, who is always affected with a general or local spasmodic condition, experiences lassitude of the extremities, and a sensation of pruriginous heat in the loins, hypogastrium and mammæ; the urine, variable in quantity, is always clear, and the genital parts, which are red, swollen, and constantly irritated by handling or illicit manœuvres, are commonly the seat of a sanious, fetid, and sometimes even a purulent discharge. Lastly, hurried respiration, fatiguing palpitations, ardent thirst, grinding of the teeth, spasm of the œsophagus, and, in some cases, hydrophobic symptoms are other phenomena attending erotomania. The termination of the disease is sometimes fatal, especially when coexisting with organic affections of the ovaries, uterus and its appendages, of which examples are cited by Blancard, by Gesner, and by Morgagni. In some cases, the attacks of furor uterinus follow each other with great regularity, and terminate as unhappily as pernicious intermittent fever. Doctor Jolly, (*Dict. de Méd. et ch. pr.*, t. xii. p. 96, 1834,) reports a case of this kind from Jauzion. It is well known that Eusebia, wife of the Emperor Constantine, son of Constantine the Great, died in an attack of furor uterinus. (*From Zonaras, hist. græcum. annal.*, t. iii. p. 23.) Nicolas Blegny, who founded the Academy of recent discoveries in Medicine, in 1678, relates the case of a woman who, after several paroxysms of furor uterinus, had one so violent, as to cause death by apparent suffocation. Paul of Ægina, likewise cites the case of a beautiful woman of Delphos, who perished in a paroxysm of the same kind. Though marriage has sometimes been known to put a stop to nymphomania,* it is a means which should not be resorted to until we are fully assured of the etiology of the disease, and of the proper time for the remedy. Suffice it to say, that we cannot be too reserved and prudent, when called upon to give advice on so delicate a point.

The *treatment* of nymphomania must depend upon the causes and primary seat of the disease, that is to say, the therapeutical means are to be applied sometimes to the brain, and at other times to the genital organs, in which is seated the venereal appetite which overpowers the patient. In the former case, which, in our opinion, is much the most frequent, we ought, especially if the erotomania be incipient, to repose greater confidence in hygieinic measures than in drugs, which are generally inefficacious in opposing a disease whose source lies in some moral cause. We must begin, therefore, by devising for the patient some means of distraction, capable of diverting

* Swenck relates that an Italian woman, who, in a paroxysm of erotic insanity, had escaped from her house, and gone to a house of ill-fame, where several men satiated their passions on her, recovered her health in the midst of their brutal caresses.

her imagination from lascivious thoughts, for which purpose we may recommend constant occupation, travelling, and exercise by walking.

"Otia si tollas periêre Cupidinis arcus." (*Ovid.*)

Every thing capable of producing erotic excitement, as the view of statues and images, the reading of romances; balls, shows, the society of men, etc.; should be avoided with the greatest care. We should always seek to occupy their thoughts with objects foreign to their passion, and to contrive that they may associate only with persons of their own sex; we must, at the same time, prescribe the use of prolonged warm baths, with cold affusions to the head, while the patient is in the bath. Emulsion of almonds, with addition of nitrate of potash; sedative and cold drinks, sweetened with syrup of orgeat, of currants or marshmallows; those made with the distilled waters of lettuce, cucumber, melon, pumpkin, or water-lily, and enemata of the same nature, with addition of a few grains of camphor; finally, whey; broths made of beets and sorrel, and of chicken or veal, with nitre; lemonade, a milk and vegetable diet; general bleeding; applications of leeches behind the ears, and especially to the nucha, are all useful methods of treatment, when the point of departure of the disease is seated in the brain.

If the nymphomania depends upon some local cause of venereal excitement, such as masturbation, some herpetic affection, prurigo, leucorrhœa, the presence of worms, etc., we must try to allay the pruriginous sensation which stimulates the patient to the revolting excesses so hurtful to her, by combining with the various means already indicated various tonics; for example, emollient and narcotic injections, and applications to the genital parts of cloths wet with decoction of poppy-heads, of lettuce, of henbane, of cicuta, etc. We might, also, with the same view, resort to inunctions of cucumber ointment with opium, or of a liniment made of lime-water and olive oil. Small enemata of milk with addition of a few grains of camphor, and the internal employment of camphor, strongly recommended by Ettmuler (*De morb. mulier.*, cap. 2), in a dose of five to fifteen grains in a mixture, are means whose efficacy has been recognized from the highest antiquity, and is consecrated by the old adage:

"Camphora per nares castrat odore mares."

To diminish the venereal orgasm, some authors have proposed cicuta, but the anti-aphrodisiac virtue of this plant is far from being proved, although Saint Basil has said, (*Homil. v. supra hexaemer.:*) "*Se vidisse quasdam fœminas, quæ potione cicutæ extinxerint rabiosas cupiditates.*" Finally, for the purpose of quelling the erotic desires, Doctor Coster has proposed the employment of tartar emetic in small quantities, one or two grains in a pint of water, to be taken in teacupful doses every hour, so as to excite nausea without occasioning vomiting. According to this physician, the nausea and muscular prostration which result from the use of this potion, scarcely ever fail to produce the desired effect. It is well to remark, also, that every thing capable of exciting the genital organs must be removed from the bed upon which the patient lies. For example, very

soft mattresses, feather beds, and beds made of down must be forbidden, and one made of straw is to be preferred instead, or else it should consist of a simple hair mattress. We should reject, also, as dangerous and immoral, the titillation of the clitoris, advised by some authors, particularly by Varandé, (*De morb. mulier.*, lib. i. cap. 5.) Excision of the clitoris, likewise, would be useless in opposing true erotomania, in the treatment of which Levret and some other authors have vainly employed it. This operation, performed several times by MM. Dubois the elder, by Richerand (*Nosog. chir.*, t. iv.), and by Græfe (*Nouv. bibl. Med.*, t. ix., p. 256, 1825), etc., has served merely to arrest the vicious habits, which might often be remedied by means of the tincture of M. Gèrentel, or the ingenious apparatus of Professor J. Cloquet, which consists of a sort of wire-work whose meshes are so close as to prevent the passage of the finger. To the employment of the various means we have mentioned, should still be added a Pythagorean regimen, a milk and vegetable diet, abstinence from stimulating drinks and food, while in the intervals of calm we must remind the patient of her duty to herself and family, which is dishonoured by her shameless practices. Finally, where the nymphomania has reached the highest degree of violence, the disease, which in that form is generally incurable, would simply require the treatment proper for mania. We refer our readers to Pinel's treatise upon mental alienation, 1809, and to the work just published by M. Esquirol, entitled *Des Maladies Ment.*, etc. t. ii. p. 32, 1838. We cannot too strongly recommend, likewise, the excellent work of M. F. Voisin, whose title is: *Des causes Morales phys. des Maladies Ment. et de quelques autres affect. nerv., telles que l'hystérie, la nymphomanie, etc.*, 1836.

## OF HYSTERIA AND OTHER SPASMODIC DISEASES OF WOMEN.

From the earliest periods to the present time, most authors who have written on the disease designated by the term *hysteria*,* have involved themselves in vain arguments, in specious explanations and rash theories upon its nature, seat and causes. Without wishing to recall all that has been said upon the subject, we shall proceed to state in a few words the opinions that have been put forth by different writers. We ought, however, to inform our readers that, in order to avoid digressions and repetitions, and especially with a view to a more methodical arrangement, we have preferred to proceed by analogy rather than to follow the chronological order, that is to say, to group together the opinions bearing the strongest resemblance and relations to each other.

The various opinions which have prevailed as to the seat of hysteria, may be reduced to four: 1. Some have placed the seat of the disease in the uterus, whether it were the effect of change of position,

* This disease has been called by various denominations, amongst others, ὑστερικὸν hysterica, hystericia, hysterical spasm; suffocation of the womb, hysterical vapours, maux de nerfs, attaques de nerfs, mètronervie, mal de la mére, hystericism, encephalie spasmodique, etc., etc.

or of alterations of the organ, as believed by Hippocrates, Plato, Aretæus, Cælius-Aurelianus, Soranus, Primrose, Haller and Duret; whether it depended upon a retention or alteration of the sperm or of blood retained in the viscus, and whence arise malignant vapours, afterwards dispersed through the whole body, as supposed by Galen, Ahrun, Fernel, Pitcairn, Charleton, Zacutus-Lusitanus, Forestus, Guillaume de Baillou, Thomas Burnet, Mercatus, Sennertus, N. Chesneau and Laz Rivière; or, lastly, whether the disease were the consequence of some modification of the uterine nervous system, acting sympathetically on the general nervous system, as set forth by Aetius, Astruc, Cullen, Pinel, Lieutaud, Vigarous, Beaumes, Louyer-Villermay, Rapon, Dugès, Foville, Dubois, of Amiens, and by most modern authors. Pujol, of Castres, and M. Lisfranc, who are of this opinion, admit, nevertheless, that chronic inflammation of the uterus or ovaries* may often be the primary cause of hysteria.

2. Other writers have supposed the disease to be seated in the general nervous system; of these some see nothing in the disease but irritation or irregular movements of the nerves; others think that the disease should be attributed to an alteration of the nervous fluid, or to some vitiation of the animal spirits. We must refer to this class the opinions of Dumoulin, de Loob, Boerhaave, Alberty, Neuter, Gorter, Sauker, Raulin, Pomme, Lory, Tissot, Ridley, F. Hoffmann, Blackmor, Pressavin, Whytt, Viridet, Sauvage, Perry, Linnæus, Gardien, etc. We may attach to the same class, also, the atony of the spirits (αταξια *spirituum animaliam*) of Sydenham, the lesion, whatsoever it be, of the ganglionic system of Bichat, and the prostration of the whole system of strength of the vital principle, to which Barthez assigns so important a part.

3. Among the physicians who have referred the point of departure of hysteria to the brain, are included Ch. Lepois, Willis and Georget: Barbeyrac thought it was the effect of an acid and bilious principle conveyed to the brain; Schacht supposed it to depend upon a disturbed course of the spirits, whose source is in the *sensorium commune* and in the nerves: again, M. Amard has referred the origin of hysteria to the inferior portion of the medulla spinalis. M. Brachet, of Lyons, (*Recherches sur l'hystérie*, etc. p. 143, 1832,) thinks that the disease has its seat in the central nervous system, and that it consists of a peculiar mode of excitation and perversion of this system. Gardien has imagined that the starting-point of the evil might very well be in the pulmonary and cardiac plexuses.

* *Vesalius* (de hum. corp. fabr. lib. v. cap. 15), speaks of having found the ovaries of hysterical women larger than a trap-ball, and filled with a yellow fluid. Riolan (Anthropol., lib. ii. p. 55), asserts that he saw an ovary larger than the fist, in a female affected with the same disease. Diemerbroeck (Anat. lib. de ventre inferiore, cap. 24), also states that he found around the uterus of a person who died in a hysterical paroxysm, a tumour filled with a yellow liquid; finally, S. N. Binninger (Observ. et curat. Med. Aut. ii., obs. 90), likewise speaks of having seen the ovaries and Fallopian tubes of a woman who died with the same disease, enlarged and infarcted with a white thickened tumour. Riverius (loc. cit. cent. i. obs. 60), found an ovary of a dark colour, and of the size of a small egg; again, Morgagni (epist. 65, No. 21) met with two ovaries in a scirrhous condition, and M. Rullier (dissert inaug.) discovered that they were tumefied in a girl who had perished in an attack of hysteria.

4. Some authors have fixed the origin of the affection which engages our attention in the stomach and its neighbourhood, (Purcel, Hunault, Pitcairn, Vogel); in the bowels and stomach, (Jean-Maria, Hamilton); in the lungs and heart, (Hyghmore); in the abdominal nervous system, and, especially, the vena portæ, (Stahl).

As most of these opinions rest upon mere hypotheses, errors and isolated facts, or such as have been observed with preconceived ideas, as, moreover, the physiological inductions which gave rise to them, were not illuminated by the lamp of pathological anatomy, we deem it proper to abstain from discussing their value, and to content ourselves with saying that if a more accurate knowledge of the seat of the disease is ever to be attained, it can only be by more careful analysis of the symptoms, and by seeking to discover which of the organs receive the principal influence of the various pathogenic causes. Nevertheless, we must add that most physicians of the present day regard the uterus as the starting-point of the different phenomena whose sum constitutes hysteria. Some practitioners, and amongst them, M. Boisseau, suppose the disease to be the effect of a simultaneous irritation of the uterus and encephalon. If it is allowable for us to put forth an opinion as to the probable sources of the disease, founded upon the cases which have fallen under our own observation, and which we have compared together, and with a great number of others reported by different authors, we should say that hysteria, properly so called, has its principal seat in the nervous system of the uterine apparatus, and that it consists of a special and *sui generis* mode of excitation and perversion of this system reacting sympathetically upon the general nervous system; we state farther, that this peculiar excitation, this morbid modification of the uterine innervation, may itself have for its origin, either a local irritation, often inappreciable, or a sympathetic one, resulting from a moral cause, or from the pathological condition of some organ or different apparatus with which the uterus has bonds of union more or less direct.

As the characters of hysteria are too numerous and variable to allow of our giving a short and precise description of it, we shall rest content with saying, that it consists of a lesion of the uterine apparatus, giving rise to paroxysms devoid of fever, which are manifested less by local symptoms than by a sense of suffocation and strangulation, followed by more or less complete loss of consciousness, and accompanied by convulsive and spasmodic phenomena in the organs of organic life, and the life of relation.

[It might, perhaps, have been deemed better to rest content with the exposition above given of the author's views, as to the essential seats of the hysteric malady; the more particularly, as notwithstanding the respectable opposition of many distinguished writers, I agree with him, that it is to be sought for in lesions of the nervous apparatus of the uterine system. Yet, I beg leave to say, that notwithstanding the existing and past dissidence of professional opinions on this point, it would, one should think, suffice for the con-

vincement of an unprejudiced mind, to examine even cursorily Dr. Tiedemann's plates, in his *Tabulæ nervorum uteri humani;* and the recently published engravings of the same series of nerves, in Dr. Robert Lee's work on Midwifery. The vast complicity of the reproductive nerves with the entire of the ganglionic system and the cerebro-spinal nerves therein displayed, would seem sufficient to remove all doubt as to the disturbing power, which, when modified by disease, that system could exert on the other members of the ganglionic innervation, as well as on the brain-nerves, and those of the spinal cord. It is scarcely to be deemed philosophical to look upon the working of the organisms, as a mere concurrence of a given catalogue of organs in carrying on the business of general life, by contributing each its part in the grand scheme of the hæmatosis, the calorification, the innervation, the assimilation, and secretion merely, and without reference to the constitutional influence that each member of the confederacy exerts on its co-members. It is like looking at the results of the operations of a great commercial partnership, in which each partner does his part in the correspondence, the buying and selling merely, when, in fact, each such partner exerts a power to modify the activity of every other member of the concern, beyond and besides his special routine of daily toil. Now, in a community of vital organisms, the nature, whether physical or physiological of the substance called *liver*, is so special, so peculiar, that throughout the whole range of the tissues, there is no other substance at all like it—it has a peculiar power, a peculiar metabolic or changing power, which it exercises for the conservation of various other parts of the economy. The same holds good as to *brain*, spleen, the stomach, the kidneys, &c. Each one enjoys not an independent, but a special life, and therein possesses the power to modify and control, to a certain extent, all other special lives ; and this, too, without relation to the mere secerning and circulating power it enjoys, but in a more extended degree, by virtue of that special and peculiar life, since doubtless the life even of every cytoblast is peculiar and special, and then *à fortiori* is it so as to the organic products of the cytoblasts that compose all our physical frame.

But it cannot be disputed, that the organs exercise each a special influence on the blood, that pabulum of the life and common bond of the members of it. The entire vascular system is lined with a membrane, called by Bichat, the *common membrane* of the sanguiferous system. But that membrane is by no means a unit. As the mucous membrane is not a unit, but is different, as it serves in different places to line organs wholly unlike in their nature and offices, so the common membrane of the blood-vessels is everywhere different, as in the vessels of the brain, the liver, the stomach, the reproductive organs, &c.

Let that membrane be regarded as constituting one single cavity or cyst, the angeiotenic cyst, containing, as in a simple single sac, all the blood of the subject, computed to amount to six hundred ounces. Let it, for the argu-

ment sake, be conceded, that the blood in this cyst, as is the fact, is perpetually changing its place of contact with the surface, so that the discs come to be placed in succession, in contact with the interior surface of every organ of the body; brain, lungs, stomach, womb, &c. Can we reasonably then doubt, that each one of these organs, so different in nature and power, taking out from, and depositing in the sanguine mass the materials for its accretion, and the detritus of its substance, can we doubt, I say, of the powerful influence each one of them can exert on the constitution of the blood? Is it not true, that each organ can and does then modify the crasis of the blood, influence the hæmatosis, and thereby rule and domineer when diseased, over the law of the life of the organisms, by this single power.

Yet this is not the sole power they can exert, and it is specified merely as one single one, and to show that it is not impossible to trace the steps by which diseased actions spread themselves abroad through the constitution.

There are other powers to disturb and to preserve beyond this one, and even exceeding it. Such are the nervous relations and connections, which, like the radii and circles of the spider's web, awaken, when touched, the sensibility of every limitrophic organ, of every fibre to which they are distributed. Of these nervous influences, I have here no time to speak, nor is it necessary for my purpose to do so; but I beg leave to ask the attention of the reader, to the remarkable case related at page 83, as exhibiting an instance of peculiar power in a system of tissues, even over the morbid products of those textures themselves. In that case it is shown, that the tissue of which the clitoris is composed, could preserve free from putridity, and almost from decomposition, a quantity of blood, amounting, at least, to more than twenty ounces, for fourteen or fifteen years, precisely in the same manner as blood is often preserved for months and years, in the cavity of the obturated womb and vagina, in cases of imperforate hymen, and other atretism of the passages, as in the case I have related, also, at p. 102, of this work.

Is there any other tissue, save the reproductive tissue, that possesses this power? Certainly aneurismal sacs do not possess it, and, so far as I know, none others.

But there is another consideration that I desire to lay before the reader; on which account I add, that the great reproductive force of all living beings, going from the top of the scale down to the lowest infusory monas or vorticella, is dependent on a reproductive tissue or substance, implanted somewhere within the constitution of the individual. That great force is one of the first necessity in the world, and, existing as it does, it could only be set in motion by an aphrodisiac or erotic sense and appetency. This it is, that in all the tribes of beings, constantly provokes them to fulfil the great ordinance to go forth, increase and multiply, and fill the whole earth. This is binding, not only on the mammals, but even on the hermaphrodite annelides and molluscs. This law is so general, so indispensable, that without its provi-

sions, the genera and the species would, without exception, in a few years be annihilated, leaving the globe a vast desolation, and without a living witness to the glory and power of its Divine author.

It is true, then, that this great force exists, but it exists in the reproductive substance, in the ovaries and womb, and there alone in the female; yet, so influential and diffusive is it, that through the nerves, it irradiates every part of the economy; the senses, and the innermost recesses of the organisms feel and obey its provocations on the eye, the lip, the tactile surface, and even in the simple consciousness of presence and power, or in the imagination itself. The faintest perception of the erotic odour is sufficient to wake it from the sleep of days or weeks, and an internal and pervading sense, which is irradiated by the reproductive tissues, fills and influences the whole community of the organisms. Is it not then a pervading vital force? Is it not a constitutional *sense?* Is there any other one amongst the whole system of organs that enjoys a power equally urgent, when it becomes excited by disease; or when disordered by whatsoever cause, it becomes capable of carrying confusion into every department where it may rave and rage in its caprice or fury? Is there any serious difficulty, then, or want of ratiocination in arriving at the conclusion, so much disputed, that disordered and modified states of the reproductive structures may, and indeed do, excite all the wonderful and mysterious phenomena, whether physical, physiological, or psychological of the hysteric malady.—M.]

The *causes* of hysteria may be divided into predisposing and determining. Though the former class is exposed to some objections, it is generally admitted, that hereditary transmission mentioned by Willis and Pomme, a feeble constitution, residence in large cities, idleness, an effeminate moral and physical education, exquisite nervous sensibility, ardent temperament, and erotic idiosyncrasy, are causes which favour the development of the disease. It is proper, also, to remark, that the affection is most common between the epoch of puberty and the cessation of the menses; nevertheless, it has sometimes been observed in young girls before menstruation, and in women who have passed the critical age. Chambon relates, in his *Treatise* upon the diseases of women, that one of his relations became hysterical at the age of eighty-three years. We add, that it more particularly attacks girls who are on the point of being regulated, young widows, women who have had no children, those who are approaching the critical period, and finally, those who are fat, plethoric, and sanguine, and in whom the menstrual function is commonly painful and irregular.

The determining *causes* of hysteria are: the menstrual effort at the epoch of puberty; suppression of the menses,* or their difficult

* Suppression of the menstruæ is often a precursory or coincident phenomenon, and not the cause of hysteria; this is proved by the fact, that the disease has been known to persist without the slightest amendment, in a great number of cases, even after the periodical discharge has been successfully restored. We also remark, that suppression of the lochia, which has been regarded as an occasional cause of

discharge; uterine plethora; forced continence; abuse of coïtus; masturbation, and all circumstances capable of producing, maintaining, or increasing irritation of the uterus, and especially of the ovaries. The disease may, also, have as determining causes, the instinct of imitation,* the vivid emotions of the soul, such as transports of anger, fright, violent and sudden disappointment, the uneasiness produced by love, the reading of highly wrought works, erotic conversation, the sight of some ghastly and bloody spectacle, or of a licentious scene; the impression produced by a tragical representation, by sombre, mysterious, pathetic, or too animated music; finally, all the circumstances that produce violent movements in the economy, or suddenly recall painful and lasting impressions.

Whatever be the causes of hysteria, women affected with, or predisposed to the disease, generally exhibit all the signs of a very excitable temperament; their characters are commonly marked with a shade of levity, frivolity, or remarkable obstinacy; they are commonly capricious and irascible; their temper is uncertain and wavering, and the most trivial circumstances make them pass from immoderate joy, from the most noisy laughter, the most affectionate caresses, to melancholy mingled with sighs, tears, sobs, and the bitterest reproaches; finally, they experience, in the highest degree, that state of anxiety, of indefinable melancholy and suffering, of which eminently nervous persons complain.

The *symptoms* of hysteria are as variable as the causes which produce them. An entire volume would not suffice, were it necessary for us to describe and trace all their varieties as mentioned by authors, for we should be in some sort compelled to describe nearly every form of disease, and thus justify what was said by F. Hoffmann, when treating of hysteria: *non est morbus unus, sed potius morborum cohors.* Is it not known, moreover, that the number and variety of the symptoms, and various forms of the disorder, led to their being compared by Sydenham, to the metamorphoses of Proteus, and to the changing colours of the chameleon. We shall, therefore, confine ourselves to a description of the phenomena which the disease most frequently presents at its commencement, and during its progress.

Though the hysterical paroxysm sometimes attacks suddenly, and without precursory signs, it is generally preceded for several minutes, an hour or two, or even for days, by some derangement of the economy, by feelings of malaise, depression and uneasiness; to these prodromic phenomena, are added frequent yawning, pandiculation,

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hysteria, is itself nothing more than a symptom of a puerperal affection, complicated with nervous symptoms.

* M. Andral relates in his course, the case of a young girl, who, at a boarding-school, fell into a paroxysm of hysteria in the presence of her companions; soon after, so large a number were attacked with the same disease, as to make it necessary to close the school for a considerable period. Thouret and Bailly cite an analogous case, which happened upon the occasion of a first communion at *St. Roch.* A young girl was attacked with an hysterical paroxysm, and the same accident soon happened to several young persons who were witnesses of it. It is probable that these attacks were the result of a cerebral spasm, of which we shall soon speak, and not of true hysteria, which scarcely ever appears before the age of puberty.

flashes of heat, redness of the face, paleness and coldness of the extremities, palpitations, numbness and cramps of the limbs, intense cephalalgia, a state of moroseness, and sadness accompanied by tears, and sighs which alternate in certain cases, with immoderate and causeless laughter.

At the commencement of the paroxysm, the patients feel a sensation of obscure tension and spasmodic constriction, analogous to that produced by the movement of some globular body, which, after having performed various circumvolutions in the cavity of the abdomen, ascends chiefly on the left side, towards the stomach and thorax, and following the course of the œsophagus, produces a sense of tightening in the throat, which, in very severe cases, occasions dread of suffocation.

This sort of mysterious ball, which mounts, by an oscillating movement, from the hypogastrium to the throat, gives rise to a feeling of weight in passing through the epigastric region, and to painful constriction and fatiguing palpitations at the præcordia. When the paroxysm is a mild one, slight convulsions, and not unfrequently impaired hearing, and a momentary feebleness of the intellectual faculties, are observed. When, on the other hand, it is more violent, partial, or even complete attacks of syncope occur, which last but a few moments, after which the paroxysm sometimes ceases. In some cases, convulsive movements of the muscles of the limbs and trunk appear, which are generally so violent as to make it difficult for several persons to hold the most delicate woman, who, in spite of the efforts of the assistants, struggles, rolls and twists herself upon her bed. When not pevented, they meet with terrible falls, strike themselves upon the breast, tear out their hair, and forcibly thrust aside any object they encounter. The body, which is stiffened, bends forwards, backwards, to the right and left, just as in epilepsy. The jaws are shut, and the eyelids, which almost always cover the whole globe of the eye, during the attack, are contracted and agitated with rapid and continual tremors. The nostrils are wide open, but the cheeks and other portions of the face commonly experience no other movements than those in co-ordination with the cries and forced respiration of the patients.

While the attack lasts, the head is almost always carried backwards; the anterior part of the neck is the seat of a tension, which causes the woman to apply the hand frequently against the region of the larynx, which she presses and scratches as though she wished to remove some obstacle. If the patient is thin and of feeble constitution, the cheeks, the lips and the alæ nasi are pale and cold: in some cases, especially where the female is fat and plethoric, the face is florid, warm and red, particularly on the cheek bones. The abdomen and thorax are distended or contracted in a permanent or alternate manner, and the edge of the false ribs is commonly the seat of a painful constriction, which depends upon contraction of the diaphragm. Some patients retain their consciousness and intellectual faculties throughout the paroxysm; others, on the contrary, lose them only for a few moments; whilst, in some, their functions are suspended

until the attack is completely over. Different parts of the body are often the seats of very acute pain. Some women say that it seems to them as though the head were squeezed in a vice or broken by the blows of a hammer; others complain of violent epigastric pain, and of terrible cramps and anguish about the region of the heart.

Though it most frequently happens that the action of the senses and of the intelligence is momentarily enfeebled or even suspended, it nevertheless happens, in some cases, that the sensitive faculties are extremely developed; indeed, hysterical women have been observed, in whom the senses of smell, touch, sight and hearing were more delicate during the attack than in a state of health, and who hear all that is said, even in a low tone, and see all that passes about them. Amongst such, are some who answer questions addressed to them; others, on the contrary, cannot speak, but indicate, with the hand, what they suffer, and after the paroxysm, describe all that they have heard, seen and felt, without omission of the slightest circumstance. Often, after these various symptoms, a period of quiet occurs, which leads to the belief that the paroxysm has reached its termination. If we interrogate the patient on this point, she answers, without ever scarcely deceiving herself, that it is or is not terminated. In fact, so long as the patient fails to assert that the paroxysm has passed, the symptoms generally reappear: it is rare that women deceive themselves, even in their first attack; and, *à fortiori*, when they have already had several. We will add, that in the most marked cases, the patients, from the opening of the attack, utter piercing, rapid cries, which have something peculiar in them, and which leads us at once to recognize the disease, if we have already had occasion to observe it.

After each violent fit, there is commonly an emission of inodorous gas from the mouth, preceded by noisy borborygmi, and accompanied by vomiting. The respiration is high, frequent, laborious and interrupted, and sometimes seems to cease, even. The pulsations of the heart are generally tumultuous, hurried and painful. The state of the pulse is very variable; it is small, contracted, frequent, irregular, and, in some cases, effaced by the convulsive movements of the muscles and the subsultus of the tendons. We ought, however, to remark, that the arterial pulsations differ according to the region of the body; for even when the pulse presents the different modifications we have just mentioned, the carotids beat with vehemence, and the jugular veins are felt to be very much enlarged. The patient often feels an acute and poignant pain in a fixed and circumscribed portion of the head, which authors have designated under the title of *clavus hystericus*. In some, expectoration is frequent, and sometimes the saliva is even slightly frothy, but without froth in the mouth. These different phenomena are accompanied by noise in the ears, by vertigo, confusion, the sensation of dazzling and sparks, which float before the eyes, or a kind of thick mist, which impairs and sometimes entirely obscures vision. Most of the patients utter frightful cries and howls, which can be compared only to those of the wolf; they abandon themselves also to immoderate laughter, alter-

nating with sobs and tears. These last symptoms, which are often the precursors of an attack, also show that the fit is approaching its termination. We ought to add that, while in the greater number of cases, the patient continues panting, and agitated at the slightest noise or shock, during the remission of the symptoms, it sometimes happens that she remains immovable, as though in a kind of ecstacy or somnambulism.

When the hysteric paroxysm has passed through all its periods, the patient regains the use of her intellectual and sensitive faculties; she opens her eyes, and utters deep sighs and plaintive moans; the action of the different functions is re-established little by little; the pulse becomes soft, undulating and regular; the respiration assumes its normal rhythm; a gentle warmth and moisture appear upon the surface; the neck of the womb, the vagina and vulva, which were dry and spasmodically contracted during the paroxysm, then become more dilatable and are lubricated by an abundant secretion: finally, after the paroxysm, which commonly terminates by involuntary tears, by sardonic laughter, by eructations, and sometimes by pressing desire to expel the urine, which is abundant and limpid, there remains nothing but a sensation of fatigue in the limbs, and a sort of general lassitude and despondency.

As each of the morbid phenomena we have just described, may be either very mild or very severe at different periods, whether in the same patient, or in different persons, we regarded it as useless to divide, as has generally been done up to the present time, the progress of the symptoms into different stages, which, not being precise, would render any limitations we might assign to each degree of the hysterical attack arbitrary and inexact. We must inform our readers, also, that we deem it best to dispense with treating, at present, of two other forms of spasmodic disorder, which we shall speak of hereafter, as we desired to separate them altogether from hysteria, with which they are often associated, but from which they differ in several essential characters. From careful study, and analysis of the symptoms at the bed-side of the patient, we have been led to conclude, that the spasmodic affections to which we refer, and which, like hysteria, *are not confined exclusively to the female*, though by far the most frequent in them, emanate from two primary sources, to wit: the encephalon, and the stomach and upper part of the intestines. In order to establish a more rational system for the application of remedial agents, and still more to introduce more correct language, and avoid confusion of ideas, we designate these lesions, which have been improperly considered as varieties of hysteria, by terms which suggest at the same time their nature, and the viscera which we suppose to be primarily affected: they are *cerebrospasm* and *gastrospasm*, which we shall treat of after concluding our remarks upon hysteria, properly so called, or *metrospasm*.

The symptoms of hysteria, as we have just said, do not always present the same degree of intensity. Sometimes the attacks are very slight, and limited to constriction of the throat and spasmodic visceral movements, without the convulsions and other secondary symptoms

which alarm the attendants. It even happens, in some cases, that certain characteristic signs do not appear, while in others very unusual phenomena may be observed, such as a desire to bite, hydrophobia, frequent hiccough, etc. The duration of the paroxysms, also, is very irregular; they vary from a few moments to one or two hours, or even days. The epoch of the attacks, also, is almost always uncertain; nevertheless, they have been observed, in certain cases, to recur in a periodical or intermittent manner. Their number, likewise, is very variable; while some persons are subject to them every week only, or every month or two, others, again, have them once, or even several times a day; we ought to state, moreover, that the attacks diminish in violence and frequency with the progress of age. During the interval between the paroxysm, the health seems to be perfect; some patients, not only preserve their embonpoint, but even become fatter and fresher. In the greater number of cases, however, hysterical women feel a sort of painful tension about the pelvic cavity, and wear upon their features a dejected expression, which is augmented by a constant leucorrhœa.

The *termination* of hysteria is preceded by a progressive diminution in the number and violence of the attacks, but we cannot rely upon the entire disappearance of the disease, until the patient has been well for several years. If we fail to remove the predisposing and occasional causes, and especially if the hygienic and pharmaceutical treatment be badly directed, the disease continues to advance; it becomes rebellious to all curative means that may be opposed to it, and may be indefinitely prolonged, unless it degenerates into different lesions, which, by their progress, shorten the term of life. The principal diseases which may follow or complicate hysteria are: hypochondriasis, epilepsy, chronic metritis, amenorrhœa, nymphomania, and all the organic lesions of the uterus and ovaries. It is in cases of this kind only, that the disorder proves fatal.* We may add, that it has sometimes ceased spontaneously after a single attack, and at other times after many. It has been known to terminate by sweating, by profuse leucorrhœa, by diarrhœa, and finally by the appearance of furunculi, and various cutaneous eruptions. According to Georget, the cessation of the paroxysms has been known to follow a sudden fright.

When the attacks are of long duration, and especially when the patients remain for a long period immovable, it so much resembles, in certain cases, the appearances of death, that the most unfortunate mistakes† have resulted from it. In order to avoid so unhappy an

* In his Inaugural Thesis, (Paris, 1808,) Rullier details the interesting case of a young girl, who died from an hysterical affection, occurring after a violent fright during the menstrual period. As this disease presented, in conjunction with the hysterical symptoms, different phenomena which might be referred to hydrophobia, such as horror of fluids, inability to swallow drinks, violent pain in the throat, desire to bite, perfect integrity of the intelligence, etc., it cannot be affirmed whether it was really due to an uterine spasm or not.

† The *Journal des Savants* for the year 1745, reports the case of *Lady Russel*, whose body remained for eight days without giving the slightest appearance of life, or the least sign of alteration. This person, who lived a long time after, was aroused by

error, we should follow, not only the wise counsel of Klein; *pro mortuis habitæ ante diem tertiam terræ non sunt mandandæ;* but likewise forbid the inhumation of hysterical women in a state of apparent death, until the commencement of decomposition shall have afforded a certainty that a return to life is impossible.

The *diagnosis* of hysteria is not generally difficult, though it has been mistaken for epilepsy, hypochondriasis, syncope, catalepsy and apoplexy. Several authors, amongst others, Ch. Lepois, Hyghmore, Boerhaave, Sydenham, Sylvius, Van-Swieten, Whytt, Lorry, Tissot, Pomme and Alberti, confound hysteria with hypochondriasis, and consider them to be identical diseases. Physicians of the present day commonly agree in considering the two affections as entirely different;* indeed, the two diseases possess characters so distinctive as to make it impossible to confound them. Hypochondriasis rarely occurs before an advanced age, and almost exclusively in men, while hysteria often shows itself even before the epoch of puberty, and *never* affects others than women. The latter disease always commences by paroxysms which, to a considerable extent, derange nearly the whole economy, whose functions are again executed as in a state of health, as soon as the attack is over; in hypochondriasis, the invasion is slow and gradual, and the chief characters of the disease are to be found in the induction of derangements of the digestive functions, in its being continuous, or presenting only slight remissions, and finally in its giving an unsound direction to the ideas. Moreover, in the last-named affection, we do not find the spasmodic and convulsive contractions, and especially the weeping, laughter, sighing; the expulsion of inodorous gases, or the eructations which precede the close of the paroxysms in hysterical patients. Besides, after death in persons who have perished from hysteria, we rarely meet, as in hypochondriasis, with extensive visceral alterations, especially of the stomach, intestines, liver, and spleen.

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the sound of the bells of a neigbouring church, whilst her husband, who vehemently opposed her inhumation, was holding her hand and bathing it with his tears. Joseph Raulin, (*Traité des affect. vapor.* 1758,) speaks of an hysterical girl, whose funeral he postponed, because her colour had not entirely changed. The author adds, that in the course of a few hours the supposed corpse recovered her consciousness. A. Parè, (*liv.* xiv. p. 992, chap. 54,) says, that a celebrated anatomist, "lequel estant pour lors résident en Espagne, fut mandé pour ouvrir une femme de maison, qu'on estimait estre morte par une suffocation de matrice. Le deuxieme coup de rasoir qu'il donna, commença la dite femme á se monvoir et démontrer qu'elle vivait encore." This mistake, which was made in 1564, by Vesalius, who was invited to the court of Spain by Charles the Fifth, gave rise to a criminal proceeding against that illustrious anatomist, who was condemned by the *Holy Inquisition*, to an ignominious punishment, which the king, *Philip II.*, commuted to a pilgrimage to the Holy Land. We ought to say, that those conditions of protracted apparent death, of which Aretæus, Aetius, Diogenes Laertius, Pliny, the naturalist, J. M. Lancisi, etc., cite examples, are extremely rare, particularly after attacks of hysteria.

* M. Dubois, of Amiens, of all authors, whether ancient or modern, is the one who has best pointed out the differences, and distinctive characters of hysteria and hypochondriasis. The labours of this young and able physician, which have been crowned by the Royal Society of Medicine of Bordeaux, deserve this honourable distinction on every account, from the judicious criticism, the philosophical arguments, and the vast erudition which they display. The work of M. Dubois, is entitled: *Histoire philosophique de l'hypochondrie et de l'hysterie*, 1837.

*Epilepsy* differs from hysteria in several strongly-marked particulars. In epilepsy there are sudden loss of consciousness and complete suppression of the action of the senses; the face is always of a deep red, violet or livid colour; the saliva escapes from the mouth and forms froth upon the lips. The pulse is strong and accelerated, the respiration accompanied by loud and jerking rhonchus: the eyes are turned upwards, convulsed, deadened and protruding; the pupils dilated, and the lips hideously swollen; finally, the *aura epileptica* seems to arise in some point or other of the body, generally in one of the fingers or toes, and simultaneously with these symptoms, which are absent in hysteria, occur convulsive movements, ordinarily more violent upon one side than the other, and chiefly affecting the muscles of the trunk and face. Besides, in epilepsy, we never observe the sighs, cries, sobs, tears, explosions of laughter, the sensations of strangling, and the globus commencing in the hypogastrium, as we do in hysteria. These distinctive characters were pointed out long since. Celsus (lib. iv. cap. xx.,) traced them in a concise and exact manner, when he said, "*neque oculi vertuntur, nec spumæ profluant, nec nervi distenduntur, sopor tantum est.*" Cælius Aurelianus, who was the cotemporary nearly of Galen, in speaking of the differences between epilepsy and hysteria, thus expresses himself: "*Frequenter simile pati epilepticis et â matricis præfocatæ mulieres inveniuntur; siquidem non aliter sensibus privantur, sed discernantur quod in ultima accessionis parte per os atque nares spumarum fluore non afficiantur.*" (De morb. acut., lib 2.)

*Syncope* differs from hysteria in the complete cessation of the pulsations of the heart and arteries; in the paleness of the face; the icy coldness of the extremities; the absence of convulsive movements, and the short duration of the attack, which, if prolonged, would produce inevitable death.

Apoplexy may be distinguished from uterine spasm, by the paralysis of one half of the body, or of a limb; by that of the tongue; by the distortion of the mouth; by the remarkable fulness of the pulse and great difficulty of respiration, accompanied by a kind of snoring. These different phenomena are not met with in hysteria.

Finally, in *catalepsy*, the eyes are open and fixed, the limbs are stiffened and immovable, and retain the position they were in at the moment of the attack. If the paroxysm, however, is not a severe one, the limbs may be flexed or extended, but even then retain the attitude which is given to them.

It sometimes happens that females have some motive that leads them to simulate hysterical paroxysms, either to induce the belief that they have been maltreated, to obtain the consent of their parents to a union which they desire, or to protract their stay in a hospital, or to obtain assistance from the attendants, etc. Should we suspect them of malingering, we may avoid being duped by the trick, by informing ourselves first of the persons around the patient, whether she has any motive for feigning disease; we should then study the symptoms attentively, and during both the paroxysms and the intervals, ques-

tion the woman, in order to discover whether she does not experience some phenomena incompatible with those she presents, and which are essential to the nature of the disease. We should endeavour to make her contradict herself; finally, we almost always feel certain that the attacks are simulated, if the patient refuse to submit to treatment, because really hysterical persons are generally importunate for the prescription of remedies fit to remove their disorder. It is proper to remark, also, that we should avoid, with the greatest care, showing the slightest doubt as to the reality of the disease; for, in case it truly exists, not only is the patient exceedingly affected by the doubts she is allowed to perceive, but her condition is almost always aggravated thereby.

The *prognosis* of hysteria depends upon an infinitude of circumstances; yet, it is not usually regarded as dangerous, and persons are astonished to see the most frightful symptoms, and a species of agony, so to speak, give place in a few moments to perfect calm, and all the signs of health. Indeed, the disorder is more alarming than dangerous; wherefore, Sennertus (*Prax. Med.*, lib. iv., 1632,) says, in speaking of hysteria: "*Malum quidem plerumque feminis lethale non est;*" nevertheless, he adds, "*aliquando tamen, supervenientê syncope, aut gravibus convulsionibus aut calore nativo extincto, ægræ è vita tolluntur.*" The same prognosis was made by Rivière, who followed Sennertus, step by step, and often copied without citing him; this author thus expresses himself in his treatise, (*Prax. Med.*, lib. xv., cap. 6, 1640): *Raro hic affectus interficit ægrotantes.* In his dissertation, (*De malo hysterico,*) Frederick Hoffmann, like the authors we have just cited, has presented a not very unfavourable prognosis, when he said: "*Vera passio hysterica, ut valdè dira et terribilis videatur, in se non adeo periculosa sit.*" When the disease is recent, especially if the person be young and not very irritable, if the determining cause be a transitory one, or if it is capable of being removed; or finally, if the attacks take place at some distance of time from each other, and are of short duration, and if all the functions are properly executed during the intervals, it is almost certain that an entire cessation of the attacks will take place before long. On the contrary, where the female is aged, and of feeble and very irritable constitution; where the attacks are frequent, of long duration, and accompanied by violent symptoms, the treatment will be long, and the cure doubtful; though we ought not to despair of effecting it. The prognosis is likewise rather unfavourable when the hysteria is complicated with epileptic symptoms, which have the additional inconvenience of frequently obscuring the diagnosis. Should the disease seem to be connected with some chronic irritation, or organic alteration of the uterus and ovaries, the affection, which would then be secondary, would require a prognosis relative to that of the primary disease. Nevertheless, in certain cases where hysteria seemed to depend upon amenorrhœa, or some derangement of the menstruæ, the hysterical symptoms have been known to continue with the same violence, even after the menstrual flux has been re-established and regulated. The same has been observed in regard to suppression of

the lochia, which, like that of the menstruæ, is perhaps as often the consequence as the cause of the affection that forms the subject of this chapter. The slight, and nearly permanent spasmodic state, designated by M. Louyer-Villermay, *hystericism*, and which commences chiefly by a peculiar sensation of constriction in the throat, and a sort of general malaise experienced by some women whose menstruation is difficult, or who are affected with an uterine lesion, constitutes a secondary phenomenon not deserving of our attention, except as being a pathognomonic sign. It suffices to say, that the spasm confined to the uterus alone, is commonly of short duration, and seldom appears except during the flow of the menses, or a few days before their appearance.

The *treatment* of hysteria presents two fundamental indications: *una in paroxismos, altera extra paroxismum*, say Sennertus and Rivière. The first indication consists in acting during the attack so as to diminish, as far as possible, its force and duration; the second, in preventing during the interval a renewal of the attack by combating the disease itself, that is to say, by seeking to destroy the action of its causes, effects, and complications.

In treating the paroxysms, and with a view to shorten their duration, we must, above all, observe the precaution of taking off the clothes and removing every thing binding, as, for example, corsets, girdles, garters and collars, which embarrass both the respiration and circulation, and obstruct the motions of the neck and thoracic and abdominal cavities. We should then make the patient lie down on a bed or large couch, taking care to arrange her with the head higher than the trunk and inferior extremities, and to confine her so that she may not strike her head, wound herself in any way, tear her hair, bite herself, or be exposed to falling. When the attack is violent, it will require at least four persons to hold her limbs, whose movements should be followed without being entirely prevented, for the more closely the patients are confined, the more exhausted and fatigued are they when the attack is over. In hospitals a straight jacket is used, which alone suffices to secure the patient; but we ought to observe that this apparatus seems to have something in it humiliating to them, and affects them painfully and unfavourably. During the attack visitors should be excluded, leaving those persons only in the room whose aid and presence are indispensable: it is also very important to avoid making remarks aloud upon the state of the patient, as this may irritate or alarm her; for, very often, in the strongest paroxysm, she does not entirely lose the use of her senses, but hears perfectly all that is said around her.

To abate the violence of the attack and shorten its duration, the patient should be freely exposed to the air, and made to respire strong and penetrating odours, as ether, acetic acid, liquid ammonia or the heated vapours disengaged from quills, horn, old leather or wool thrown upon burning coals. We have employed, with some advantage, fomentations or lotions of a mixture of eight parts of water to one of Cologne-water or vinegar, applied to the temples and forehead. Small enemata of cold water, especially with the addition of

three grains of camphor and eight or ten of assafœtida suspended in the yolk of an egg, and from fifteen to twenty drops of Sydenham's laudanum, have always appeared to us to produce good effects, especially where the attack is mild and the spasm in some sort concentrated upon the organs contained within the pelvis. A means which often serves to arrest an attack, consists, when we can separate the jaws, in the introduction into the mouth of a tablespoonful of very cold water, to which has been added two or three drops of ammonia. We have also used with good effect, the following potion: ℞.—distilled water of balm, three ounces; orange-flower water, one ounce; syrup of valerian and poppy-heads, each, one ounce; tincture of musk and castor, each, twenty drops; sulphuric ether, fifteen drops. Mix and give at first two tablespoonfuls at once, and then one every hour.

In very violent attacks, it is well to employ dry or stimulating frictions of the whole body, and particularly of the limbs and vertebral column; the last may be made of camphorated alcohol, or still better of the following liniment: ℞. olive-oil, two ounces; camphorated alcohol and spirits of turpentine, each one ounce; liquid ammonia and Sydenham's laudanum, each one drachm. To the employment of these measures may be added dry cups, and especially flaxseed poultices sprinkled with mustard, and applied to the hypogastric region, to the thighs, and even to the arms. Should the symptoms be very intense, pure mustard, and even Gondret's ointment may be used.* Though several authors speak of having seen hysterical paroxysms quelled by bleeding, we think that it ought not to be resorted to except when the female is either plethoric or irregular in her menstruæ, or when she is threatened with congestion of some important organ; for we have known it to increase the intensity and frequency of the attacks; should the latter return at certain hours, and be preceded by premonitory signs, we should endeavour to prevent their return by the use of some of the means just mentioned, and especially by irritating pediluvia and the application of sinapisms to the thighs.

Amongst the great number of remedies that have been brought forward for the purpose of arresting hysterical paroxysms, we may cite narcotic injections† and antispasmodic suppositories introduced into the vagina; aromatic or fetid fumigations of the genital parts; a sudden jet of cold water upon the face; and also, for the purpose of suddenly arresting the fit, by a violent shock, some have made use of reproaches, or of threats, and of the most indecent manœuvres. The precept of the father of medicine: *Nubat illa et morbum effugiet*, has led to the proposal of consummating the venereal act during an attack of hysteria; Duret (*In enarrat. ad, etc.*, cap. 59), speaking of a husband, thus expresses himself: *Jussi ut rem cum uxore sua haberet: rem habuit, indèque statim convaluit.* Ætius, also,

* Made by mixing together an ounce of suet and lard; and two ounces of liquid ammonia.—*Trans.*

† Bichat successfully treated three hysterical girls by means of injections which he caused to be retained in the vagina, and to which he added from one hundred to one hundred and fifty drops of laudanum.

tells us of a practice which was employed with the same view by certain matrons: "*Excreto multo crasso viscosoque semine ex digitorum contrectatione,*" etc. A Parè says in his unaffected style (lib. 24, chap. 55,) "*A plusieurs d'icelles ——— il s'evacue dehors une grosse semence ——principalement à celles à qui les matrones titillent le col de leur matrice.*" Finally, Jerome Capivaci (*Med. pract.* lib. iv. *De morb. mulier,*) dares to give still more extraordinary and indecent advice; this idea, destructive of both morals and health, ought always to be rejected with horror, notwithstanding the opinion of Sauvages, who speaks of a woman in whom "*clitoridis titillatio a barbi-tonsore impudico instituta paroxysmum solvebat.*" To prove the falsity of the doctrines upon which the immoral practices we have just mentioned repose, it is sufficient to state that there are at least as many hysterical persons in houses of prostitution as in convents, and that married women are more exposed than virgins, to uterine spasm. Far from calming the attack, coïtus, which is the most direct excitant of the uterine system, could, in general, only increase its violence.

Though the treatment of hysteria during the paroxysm may be almost purely empirical, that which we ought to employ during the intervals, that is to say, the radical treatment cannot be successful unless it assume as its first principle the removal of the cause of the disease, nor unless it is based upon the nature of that same cause. Thus, if the hysteria co-exist with amenorrhœa, we must endeavour to restore the menses by the means pointed out in the chapter devoted to menstrual suppression: if, on the contrary, the attacks occur at the moment of the periodical discharge, we must try to prevent them by the use of baths, by emollient drinks, by antispasmodic and narcotic enemata, and by small revulsive bleedings between each menstrual epoch. The same plan should be followed, if the uterine spasm coincide with engorgement of the neck, the state of which ought always to be ascertained (at least in women who have had sexual intercourse), before commencing the curative treatment.

For the purpose of combating the spasm itself and preventing the return of the paroxysms, recourse has been had to a great variety of therapeutical agents, principally antispasmodics, narcotics, tonics, antiphlogistics and revellents. The antispasmodics which have been most frequently employed with advantage, especially in very irritable persons, and those of exquisite sensibility, are: the distilled waters of balm, mint, cherry-laurel, orange-flowers, linden-flowers, and peony: infusions of valerian, mugwort and chamomile; musk, castor and assafœtida, in tincture or substance; amber, camphor, myrrh, frankincense, gum ammoniac, spiritus mindereri, carbonate and muriate of ammonia, Dippel's animal oil, the ethers, syrup of ether, Hoffman's anodyne, and finally, the oxides of zinc and bismuth, and the carbonate of potash; these different remedies, which are administered either in draughts, in the form of enema, in pills, or by friction, are often usefully combined with the preparations of opium, cicuta, hyoscyamus, aconite and lactuca virosa; we ought to remark further

that narcotics* prescribed alone, and the medicinal prussic acid even, in the dose of one or two drops daily in an ounce of water, have sometimes produced favourable results.

Where the patient is of a broken constitution, thin, feeble and cachectic; when she is badly regulated; if she has lost much blood, or if she inhabits a low, damp, badly ventilated and marshy situation, great advantages may often be obtained from the employment of tonics; such as the preparations of iron; cinchona; rhubarb; gentian; and infusions of the lesser centaury and Virginia snakeroot. If, on the contrary, the patient were strong, plethoric, very fat, and especially if she were at the same time affected with amenorrhœa or dysmenorrhœa, we should resort to general bleeding, to scarified cups, and to applications of leeches to the thighs, which at the same time act as derivatives. General baths; vapour baths; hip-baths; pediluvia; emollient and sedative drinks; broth made of veal, chicken or frogs; whey; milk diet; poultices to the hypogastrium; enemata and injections of olive oil, regarded as specifics by Pomme and Pressavin; and, finally, all the means capable of producing general and local relaxation, are proper in cases where hysteria seems to depend upon a state of plethora.

Revellents are indicated chiefly in women of lymphatic or lymphatico-nervous temperament, and sometimes in those who are plethoric; but they should *never* be resorted to in cases of the last kind before having first employed one or more bleedings. These various means, which comprise cutaneous irritants; sulphurous douches, and baths of the same kind; ammoniacal, alcoholic, aromatic and dry frictions; sinapisms; blisters; setons; issues; moxas; the *cauterizations transcurrentes* upon the abdomen, successfully employed by M. Lisfranc; and, finally, all agents used with the view of displacing the morbid action of the organs primarily disordered, are likewise suitable when hysteria has followed an herpetic, arthritic or rheumatic affection. It is for the purpose, also, of producing a revulsive effect, or to remedy some gastric derangement or habitual constipation, that purgatives and emetics have sometimes been advantageously employed. Should the disease seem to depend upon a state of torpor of the genital organs, marriage may be recommended; while, if the hysterical attacks were dependent upon improper excitation of the genital organs, no hope of cure can be entertained unless the manners are reformed and more or less absolute continence enjoined.

The curative means we have just mentioned generally require to be employed with the greatest circumspection, because as the disease is usually of long duration, their abusive and protracted use could not be borne by the patients. It is proper to remark, also, that the action of the therapeutical agents cannot be followed by good

* We observe in the 11th vol. of the *Revue Médicale*, p. 311, that Doctor Ch. Coindet did not hesitate to inject a preparation of opium into the veins, in a case of hysteria assuming the form of tetanus. The momentary success which followed the employment of this rash measure, did not last, for the disease reappeared at the end of six weeks.

results, unless aided by dietetic and moral means. The regimen must be modified according to the constitution of the patient. Thus, for strong and plethoric persons should be prescribed a diet consisting of thin soups, milk, herbaceous vegetables, a moderate use of ripe or well-cooked fruits, and some of the white meats; those, on the contrary, in whom feebleness and languor keep up extreme sensibility of the organs, should be subjected to a restorative diet; to the use of nutritive aliment, and especially of the white meats which are of easy digestion. Finally, a residence in some healthy situation; a pure and temperate air; walks in the country in the morning and evening during the fine season; travelling; river, and especially sea-bathing; agreeable occupations; domestic cares; useful and amusing reading; bodily exercises; riding on horseback; means for employing the mind, and select society; such are the moral and hygienic means capable of efficaciously assisting the other therapeutical agents, and even of preventing the development of hysteria in persons showing a predisposition to contract the disease. We conclude by stating that those who desire to examine more thoroughly the nature, seat, literary history, etiology, and therapeutical treatment of the disease under consideration, would do well to consult the late works of Mess. Louyer-Villermay, Georget, Ch. Gerard, Brachet, of Lyons, Foville, and Dubois of Amiens.

## HYSTERIFORM ATTACKS.

Though the *vapoury* or *spasmodic* affections to which women are liable generally have their point of departure in the uterine apparatus, the analysis of the phenomena which constitute them and of the causes under whose influence they are produced, leaves no doubt in our mind that they may have their source, either in the encephalon, as supposed by Ch. Lepois, Willis and Georget; or in the stomach and intestines, as supposed by Purcel, Pitcairn, Hunault, Jean Maria, Vogel, Hamilton and some others.

We have one peremptory reason to prove that the uterus is not *always* the commencing point of the spasmodic affections of females, which is, the existence of hysteriform paroxysms in men, as observed by Ch. Lepis, F. Dubois de le Boë, Morgagni, Boerhaave, Raulin, F. Hoffmann, Pomme, Leroy, Cullen, Haller, Gardien, Georget, Louyer-Villermay, Mess. Récamier, Trolliet and Brachet, of Lyons, Casimir Broussais, and twice by ourselves* and by several other physicians. Besides, the study of the pathogenic causes, the progress of the disease, the analysis of the symptoms and their comparison with those of hysteria properly so called, would alone be sufficient to prove that spasmodic disorders may likewise have, as their primary source, some particular irritation of the encephalon or stomach. Spasm of the former of these organs or *cerebral spasm*, may be designated by the title of *encephalospasm* or *cerebrospasm*, while we may

* We saw a case of hysteriform spasm in 1833, in a boy who sold lemonade in the streets, and a second, a few days since (April 15, 1838), in a young type-founder employed by M. J. Didot.

distinguish spasm of the stomach under the denomination of *gastro-spasm.*

[I do not perceive the force of the argument here advanced against the *hysterical* nature and origin of the hysteric paroxysm, or passion. Not only the celebrated case mentioned by Sydenham, but numerous published cases of the disorder occurring in males, show that the affection is not confined to women alone; and yet, even admitting that the *womb* itself, or the *ovary*, is not at the foundation of the malady, nor the disturbing force in the malady, we may readily conceive it is in the reproductive tissue, and the reproductive influence or power, that is situated the *fons et origo* of the evil. I conceive the question to be, not so much whether hysteria arises from a disturbing power of the womb, as from a disturbing power of the reproductive agencies implanted in the economy; and I conceive that deviations of that power, or those agencies, whether in the male or the female, may alike be regarded as *ipsissimas causas* in these maladies.

Read, in Trousseau and Pidoux's article, *Médication Antispasmodique*, their exposition of the phenomena of the genital act, for a description of the hysteriform state, in its most exquisitely marked features.—M.]

The *predisposing causes* of encephalospasm independent of hysteria, are: a nervous temperament; the feminine sex; the culture of belles-lettres and of the arts, especially of poetry; a vivid imagination; careful education; great development of the intellect; habitual cephalalgia; the abuse of perfumes, of alcoholic liquors, and of exciting drinks, especially coffee; and, finally, all circumstances capable of producing frequent and protracted excitement of the encephalon.

The *exciting causes* are: anger; sudden fright; the unexpected receipt of bad news; the sight of some painful spectacle or sanguinary scene; the view of another female in a convulsive paroxysm; the departure of some dearly loved person; the sad impressions of memory, and strong and unexpected sensations, as, for example, the sound of thunder, of cannon, etc.; a penetrating odour, and especially one for which antipathy* is felt; the hearing of certain pieces of music, or of cries announcing imminent danger; acute physical or moral suffering; a conflagration, and any great misfortune, &c. We attended, a few months since, a female, twenty-eight years of age, who, having previously suffered from nervous disorders, was suddenly taken with a violent paroxysm of hysteriform cerebral spasm, on seeing an only son, five years old, fall from the third story. M. Th * * *, jr., ex-prosector of the *Faculté de Médécine*, fell, deprived of

* M. Orfila cites the instance of a young lady who could not be present where a decoction of flaxseed was preparing without fainting. M. H. Cloquet has observed the same thing. Aretæus saw epilepsy caused by certain odours. M. Rostan says that attacks of hysteria, loss of voice, and even suffocation, have been caused by the colour of the flower of the *malva moschata*, of the *lobelia longiflora*, of the *magnolia tripetala*, etc. We knew a lady who was instantly thrown into a nervous paroxysm by the smell of orange-flowers; one of our connections, wife of a deputy, Madame B. de C * * *, experienced the same accident from the odour of violets. That of the lily, tuberose, musk, and especially of frankincense, often produces as unpleasant effects, not only in women, but likewise in men.

consciousness and with convulsive movements, at accidentally meeting the procession of the physician *Castin*, on his way to the scaffold. M. Brachet, of Lyons, quotes the case of a washerwoman, regular as to her menses, and enjoying good health, who was suddenly attacked with cerebral spasm, accompanied with loss of consciousness, with convulsive agitation and with a feeling of strangulation. She had let fall a bundle of linen that she had just washed, while crossing the shore plank of a boat used for washing. M. B * * *, one of the most distinguished of our young composers, is seized with an hysteriform paroxysm whenever he hears the beautiful finale of the second act of the opera *la Vestale*. Doctor Vautré in his thesis cites the case of a young woman, seventeeen years of age, who was attacked with a cerebral spasm as soon as she heard the hour of five strike on the clock in the apartment; the hour was that at which her father had died. We could, were it necessary, quote a number of other cases of the same kind.

*Symptoms.*—Like the paroxysms of hysterical spasm, those of cerebral spasm appear suddenly or are preceded by a few prodromes, such as vertigo, tinnitus aurium, obstinate insomnia, absence of mind and even ecstacy, inability to sustain any long-continued intellectual labour, and, finally, profound sadness, alternating with excessive gaiety and causeless laughter. After the precursory phenomena have lasted a longer or shorter period of time, the patient falls without consciousness, and loses, more or less completely, the exercise of the sensitive and intellectual faculties. This condition often lasts during the whole of the attack; nevertheless, in some cases, the suspension of the functions of intelligence is only momentary, and it may happen even that they shall become more energetic, and the external senses be sharpened and more delicate than in the normal state. The limbs and trunk are stiffened and affected as in hysteria, with convulsive movements of flexion and extension; but it is rare for the patient to complain of the sensation of globus hystericus. If the last phenomenon appears at all, it commences in the epigastrium only: finally, the pulse, the respiration, the heat and the phenomena which precede the termination of the paroxysm, are nearly the same as in the attack of hysteria. We ought to remark, however, that during the paroxysm of cerebral spasm, there is rarely any disengagement of gas from the mouth and never any borborygmi and meteorism, as so often seen in hysteria. *Cerebrospasm* often terminates, after a single spasm, which rarely lasts more than a few hours; in other cases, as happens in hysteria, it reappears a greater or less number of times, or is combined with that affection, according as the organic predispositions change. When the paroxysms are frequently renewed or long protracted, there may follow loss of memory, mania, mental alienation, partial paralysis, and strong tendency to apoplexy.

### OF GASTRO-INTESTINAL SPASM.

*Gastrospasm* chiefly attacks persons who make frequent use of aromatic substances, of highly-seasoned salt and exciting dishes, such

as truffles, mushrooms, salt meat and fish, alcoholic drinks, tea, coffee, chocolate with vanilla, etc. The frequent administration of purgatives, narcotics, bitters, astringents, tonics and emetics also dispose to this affection. Nervous and melancholy women, those in whom the stomach is feeble, delicate, irritable and subject to nervous cramps, and, finally, those subjected to protracted low dieting, are likewise more liable than others to gastrospasm.

The *determining causes* of gastrospasm are: the ingestion of iced drinks, sherbet, orgeat syrup, or lemonade into the stomach, particularly after eating; heavy and indigestible food, especially food for which repugnance is felt; the administration of an emetic; a drastic purge; or some remedy whose perturbing action is very powerful, have often given rise to nervous phenomena, which together constitute gastrospasm. M. Brachet (*loc. cit.*, p. 135) relates the case of a lady, twenty-six years old, who was suddenly taken with an hysterical paroxysm, after having eaten, without knowing it, of a dish seasoned with cheese, for which she had a strong antipathy. We saw, last year, a lady who was generally regular and enjoyed good health, suddenly attacked with gastrospasm, after taking a few teaspoonfuls of vanilla ice-cream: we also knew orgeat syrup, taken by a lady thirty-one years of age, and tartar-emetic lotions, used by another twenty-three years of age, to produce the same effect. It is proper to state that these ladies were not then at the period of their menstruæ, which appeared as usual, without presenting any thing singular.

The prodromes of hysteriform gastrospasm are, general malaise, lassitude of the inferior extremities, and sense of oppression at the epigastriun. To these precursory symptoms, succeed intense gastralgia, a kind of painful torsion and dragging pains in the stomach, accompanied by gurgling and by emissions of large quantities of gas, with efforts at vomiting and sensation of constriction in the throat. In this kind of paroxysm, convulsive movements of the limbs, and sometimes general convulsions, are observed; the beating of the heart is strong and tumultuous; the respiration difficult, interrupted, loud and even stertorous; the face, which is extremely pale, and particularly the region of the stomach, which is the seat of some swelling, are covered with a cold and viscid sweat, which is replaced by a warm, soft perspiration, when the paroxysm approaches its termination.

The persons most exposed to these sorts of attack, are commonly subject to cramps of the stomach, to derangements of the digestive functions, to chronic gastritis, and to engorgements of the abdominal organs. These different phenomena, and the absence of all nervous symptoms in the region of the uterus, indicate, in our opinion, with sufficient clearness, that such attacks have their point of departure in the stomach. It must be evident that we have devoted ourselves to the study of the causes and to the analysis of the symptoms, in order to establish the distinction that we have made, and to discover the different sources of the spasmodic disorders of females.

The last variety of gastro-intestinal spasm yields either to the em-

ployment of antispasmodics and tonics, or to that of antiphlogistics, local bleedings, general baths, warm poultices, derivatives, and especially to frictions upon the epigastrium with tartar-emetic. Cerebral spasm requires moral means, warm baths, with cold applications or affusions to the head, leeches to the neck, and laxatives, and derivatives to the limbs and digestive canal. We add, that the employment of these different therapeutical agents ought to be modified according to the causes, symptoms and complications, and that their use should be continued a long time after the attacks have ceased; that is to say, until the constitution shall have been modified in such a way that we need no longer fear a relapse. This fortunate result will be the more certainly attained, if the patient uses proper care in avoiding the causes which might bring on the attacks.*

We shall conclude by saying, with Th. Willis, (*De morbis convulsivis*, cap. x., *Pathol. cereb. et nerv.*, 1667,) that the hysterical affection has so bad a reputation, (*passio hysterica pessimæ adeo famæ existit*,) that it is made to answer for every thing that is troublesome amongst women. When unable to discover the cause and treatment of any disorder which seems extraordinary, we immediately accuse the evil influence of the womb, which is most frequently innocent, (*pleurumque insons est*,) and gravely assert that there must be *something hysterical* in it, (*aliquid hystericum subesse pronunciamus ;*) then we prescribe some form of treatment dependent on the evasive and convenient explanation which veils our ignorance, (*qui sæpe tantum ignorantiæ subterfugium est.*)

We have still to treat of uterine neuralgia, to which M. Louyer-Villermay has given the name of *hysteralgia.*

## OF HYSTERALGIA.

By this term, derived from the υστερα, *uterus*, and αλγος, *pain*, is usually meant any pain in the gestative organ, independent of inflammation of that viscus. This affection, which is for the uterus what gastralgia is for the stomach, scarcely ever appears except during the period of the sexual existence, say from fifteen to forty-five years of age. It has been observed, that many girls, before reaching the age of puberty, and even some married women, are subject to it at each return of the menses. In some cases, hysteralgic pains are brought on by the first conjugal approaches, and they frequently succeed to the sensation of voluptuous spasm which occurs during sexual union. Without being the effect of leucorrhœa, of displacement, or of rheumatism of the uterus, etc., hysteralgia is a

* L'Histoire de l'Académie des Sciences, (year 1752, p. 73,) mentions several cases of hysteria and other spasmodic disorders cured by the employment of rapid, abrupt and unexpected music. Pomme and Tissot relate several examples of it. Goubelly, who is the author of a learned dissertation, (*An hystericis insultibus præcavendis musice*, Paris, 1771, collection de thèses érotico-médicales,) has derived great advantage from the employment of music in the treatment of hysteria and all the vapoury affections of women. We shall dwell at some length on this subject, in a work which we purpose publishing, and which is to have for title, *De l'histoire philosophique de la musique et de l'influence de cet art sur les passions et sur la santé de l'homme.*

symptom which often accompanies those different disorders, but which, instead of being like them, continuous, has longer or shorter periods of perfect calm. Hysteralgia, also, sometimes coincides with paroxysms of intermittent fever; during the apyrexia, there often remains slight sensibility merely of the hypogastrium, which might lead us to suspect the presence of a slight metritis, a condition, moreover, which has been known to arise when the nervous affection of the uterus has lasted a great length of time.

The *symptoms* of uterine neuralgia are more or less violent pain, with sensations of pricking and twisting, and often a burning heat even, seated in the centre of the pelvic excavation, and irradiating, in some cases, to the rectum, anus, groins, and loins, and especially to the vagina and vulva. Exploration by the Touch and speculum, shows that the genital organs present neither redness, swelling, nor abnormal sensibility. The pain, however, may reach such a degree of severity, that the patient is thrown into a state of agitation and despair, capable of giving rise to a suspicion of her being attacked with mental alienation.

The *treatment* of hysteralgia consists in the use of baths; of emollient and narcotic enemata and injections; and of cataplasms, and liniments of the same nature applied to the hypogastric region; finally, repose, continence, demulcent drinks, caustic issues on the thighs or arms, and especially frictions of the hypogaster with tartar-emetic ointment, are additional means that ought not to be neglected. Should the disease assume a periodical form, either with or without fever, recourse must be had to the preparations of cinchona, and especially to the sulphate of quinia, in combination with opium. If the hysteralgia were a symptom of some other affection of the uterus, we should seek, above all, to overcome the primary disease.

With this, we conclude our remarks upon the diseases peculiar to females; we have passed by, without notice, those that are relative to reproduction, and that are classed in the *Sixth Section* of our synoptic table, because, on the one hand, they do not enter into the plan of the work, and on the other, because they are sufficiently numerous and important to induce us to devote to their consideration a particular treatise, which will be independent of this, and which we purpose publishing after some time.

Though it is evident from the sad picture we have just traced in lengthened detail, that the diseases peculiar to women are for the most part extremely serious, it is also evident, that we may generally hope for their prevention and cure, by opposing them in good time, by the various prophylactic and therapeutical agents, which have been tested by experience, and which justify, day by day, the old adage:

> Principiis obsta; serò medecina paratur
> Cum mala per longas invaluere moras.
> *Ovid.* Remedia amoris, ver. 91, 92.

# CHAPTER X.

## SPECIAL HYGIENE OF WOMEN.

Pluris est labantem sustinere, quam lapsum erigere.—Seneca.

After treating of the diseases peculiar to women, we naturally come to speak of the means of avoiding them as far as possible, and of the precautions to be taken, in order to render less difficult and laborious the important functions assigned them by nature. The object we propose to ourselves, in this chapter, is, therefore, to guide them through the midst of the dangers which threaten them during those stormy periods, and physiological transitions that mark the chief phases of their life. Though the counsels we give them are far from having the power of always preventing their diseases, we have, at least, the certainty that they will constantly weaken the morbific influences which produce them.

To proceed with greater method in the application to women of the hygienic precepts which belong to their sex, we have thought best to follow the physiological order in which the principal periods of their existence succeed each other, and not to restrict ourselves to the six divisions adopted by modern authors, except when we shall be occupied with what concerns them chiefly in general hygiene.

### HYGIENIC RULES CONCERNING PUBERTY AND MENSTRUATION.

When a young girl shows, by the unfolding of her physical faculties, that she is approaching the completion of her full development, she needs the closest watching, and a management having a different object from that towards which her childish constitution tended. Whereas before puberty she existed but for herself alone, having reached this age, the spring-time of life, when all her charms are in bloom, she now belongs to the entire species which she is destined to perpetuate, by bearing almost all the burthen of reproduction.

During infancy, the vital forces tend to act equally upon all her organs, but at the epoch of puberty, the chief efforts of the organism are in some sort concentrated upon the sexual parts, whose functions are executed only during the second period of life.

As at this period, the instinct of modesty often leads young girls to conceal their first menstrual hæmorrhage, it becomes the duty of mothers to inform them of the revolution they are about to undergo, and to announce to them that the sanguine discharge, which they are to become subject to, is a natural function upon which their health will henceforwards depend. Young persons, kept in entire ignorance upon this point, and taking their new condition for some shameful infirmity, have been known to oppose the salutary efforts of nature, by

means of lotions, injections, and other equally dangerous agents. The exact truth, therefore, should be told to girls just arrived at puberty, because, though it is dangerous to know too much, it is more dangerous to be entirely ignorant.

The general attention required by women at entering the brilliant and stormy crisis, which is terminated by the appearance of the menses, consist in fulfilling two principal indications: 1, to moderate the excitement and disorder resulting from the momentary plenitude of the circulatory system; 2, so to direct the efforts of nature, that they may exert their chief action upon the sexual organs, in which the vital forces ought, so to speak, to centre and terminate.

A carefully regulated regimen is of all means the most appropriate one for fulfilling the first indication; the food of a young girl at puberty ought to consist principally of vegetable substances, of preparations of milk, of the tender meats, and of light and easily digestible substances. Water, with very small quantities of wine, cooling drinks, and light beer, should form the chief part of her drink; solid and highly seasoned meats, sour and unripe fruits, stimulating articles, alcoholic liquors, and coffee, as well as the daily use of tea, must be carefully avoided; warm baths, taken from time to time, will contribute, together with the regimen, to produce a general detergent effect, and will have the advantage, moreover, of softening the skin and dispersing the cutaneous eruptions to which girls are particularly subject at the period of puberty. Sanguine evacuations, particularly general bleedings, are almost always contra-indicated at this time, and their employment becomes justifiable only in case there should exist some acute and dangerous inflammation of an important organ. Issues and derivatives, likewise, should never be employed, except with great care, and in cases when the indications for their use are very positive.

To fulfil the second indication, to wit, to place the genital organs, especially the uterus, in a condition favourable to their becoming the seat of the irritation which precedes the menstrual exhalation, we should advise gymnastic exercises, walking and riding, running; the games of battledore, the jumping rope, the hoop, and riding on horseback; lastly, frictions about the pelvis and inferior extremities, the use of flannel-drawers, etc., are additional means very useful for inviting the flow of the menses. If the important function delays its appearance too long, and particularly if the girl suffers any of the evil effects of amenorrhœa, we should resort to very warm hip-baths and pediluvia; to aromatic fumigations; to applications of cups to the thighs, and leeches to the vulva; and finally, to the various means pointed out under the head of essential amenorrhœa. At this period, in particular, we must forbid the wearing of corsets with busks and whalebones, and tight clothing, which obstruct the free development of the pelvis, of the thorax, and of the neck, and which might prove the origin of most of the diseases whose sad picture we have just sketched.

It will be well, at the same time, to pay attention to the moral condition of the patient, and for this reason, it is of the highest im-

portance to remove young girls from boarding-school, when they approach the age of puberty, in order to exercise a constant watch over them. We should prevent, as far as possible, the false emotions produced by the reading of licentious books, especially of the highly-wrought romances of the modern school, which are the more injurious, as all the faculties become, as it were, overpowered by the desire to experience the sentiment which these works always represent in an imaginary and exaggerated strain. Frequent visits to the theatre ought to be carefully avoided, because they, also, may give rise to sensations conformable to the moral condition, which is naturally, at puberty, already too much exalted. These powerful exciting agents, and still more frequently, the violent intimacies formed at boarding-school, tear the veil of modesty, and destroy, for ever, the seductive innocence which is the most charming ornament of a young girl. Endowed with an organization eminently impressionable, she soon contracts improper habits, and constantly tormented by an amorous melancholy, becomes sad, dreamy, sentimental and languishing. Like a delicate plant, withered by the rays of a burning sun, she fades and dies under the influence of a poisoned breath. The desires for happiness and love, so sweet and attractive in their native truth, are in her converted into a devouring flame, and onanism, that execrable and fatal evil, soon destroys her beauty, impairs her health, and conducts her almost always to a premature grave!

Comme une fleur dessechêe
Tombe, la tête penchée,
Feuille à feuille, sur le sol:
Ainsi meurt la pauvre fille.
En elle plus rien ne brille,
Que les perles de son col.

(L. A. Berthand.)

It often happens that, in spite of all the care and precaution of a tender and prudent mother, the imagination of a girl becomes exalted to such a point, as to silence the voice of reason and shame. In this unequal contest, where nature often gains the victory over social institutions, we should resort to the use of means which may, by a powerful diversion, counterbalance and destroy the erotic exaltation. Experience has proved, that among these means, severe occupation of the mind, and bodily exercises carried so far as to induce fatigue, are more efficacious than all the drugs of the apothecary; the Fable which represents the chaste Diana as the goddess of the chase, is an ingenious allegory, which seems to prove that the ancients had discovered, in corporeal exercises, the power of blunting, and even of extinguishing the stings of love. A strict superintendence; a milk and vegetable diet; the study of history, geography, and belles-letters; counsels founded upon religion and morality; the frequent use of bathing; the precaution never to leave young persons alone, and especially to make them retire late and rise early; such are the means to which we may almost always resort with success.

A directly opposite plan should be adopted for girls who, though arrived at the nubile age, are cold, apathetic, and indifferent; and, it

is to such only that the culture of the fine arts, the frequenting of balls, of theatres, of crowded assemblies, and even the reading of certain imaginative works and romances, will not be hurtful, and might even prove useful in exciting their sensibility, and thus inviting the menstrual exhalation.

From the epoch of puberty to the critical age, the menstrual discharge requires certain cares and precautions, which it is important to understand. While the hæmorrhage is present, women ought to refrain from taking baths, and from washing the hands and genital organs with cold water; they should also avoid cold feet; they should not remain with the arms or neck uncovered, and must abstain from iced, exciting and alcoholic drinks, such as sherbets, coffee, tea, liqueurs, etc.; coïtus, also, ought to be proscribed, because the excitement determined by it in the genital organs, may occasion either metrorrhagia, or more or less complete suppression, and secondarily a utero-vaginal inflammation. It is well, also, to avoid sitting upon cold and damp places, for example the earth, a stone bench, a grassy bank, etc. The napkins, or *chauffoirs*, employed to receive the fluid of the menses, as it escapes from the genital parts, ought always to be well aired, and in winter warmed before being applied. If the discharge is too abundant, it may be remedied by a vegetable and milk diet; by repose; by the horizontal position; by cooling and sedative drinks, as barley water, whey, weak lemonade, etc.; if the female is of lymphatic temperament, she must use, on the contrary, a tonic diet, composed chiefly of roast meats, feculent substances, and rich soups. When menstruation is entirely or partially suppressed, in consequence of some imprudence or unexpected occurrence, it is necessary to endeavour to recall it, by means of a warm infusion of balm and orange flowers. Rest in bed, warmth to the thighs and legs, maintained by bottles filled with warm water, are other means which should not be neglected.

We ought to remark, moreover, that during the flow of the menses, except some absolute necessity arises, it is proper to abstain from the use of bleeding, of purgatives, of emetics, and all the therapeutical means which act energetically, and which might occasion an impression capable of disturbing the salutary efforts of nature. In general, women may escape most of the disorders of menstruation, either by exercising, to a greater extent, the muscular system, which they too often condemn to dangerous inaction; by abstaining from exciting, salted, or highly-seasoned food and from stimulating drinks; or lastly, by taking care to clothe themselves suitably during the winter; and especially by wearing flannel drawers, some days before, and during the epoch of the menses principally. It is, likewise, very important that they should abstain, during the presence of the discharge, from all intellectual labour, and from severe study, which, by establishing a high cerebral excitement, determine an unequal distribution of the vital forces, and cause an afflux towards the brain of the blood which ought to flow towards the genital apparatus. Before concluding what we had to say upon the attention to hygiene that menstruation requires, we will add, that so long as the function lasts,

women ought to be the object of the most attentive kindness, and of a solicitude capable of preserving them, as far as possible, from the unhappy influences of the physical and moral causes which affect them then more strongly than at any other period. It is well to say, also, that if some amongst them become subject at these periods to caprices, to sadness, and unequal temper, we should always bear these transient humours with indulgence, because they depend upon the action of the body upon the mind, and upon an active irritation, which is radiated from the uterus towards the other organs, and especially towards the brain.

### HYGIENIC RULES IN RELATION TO THE UNION OF THE SEXES.

If, on the one hand, as M. Virey* says, the condition of virginity, in our civil institutions, is a state of violence against the impulsions of nature, very different from the free state of the young females of animals who are subjected, at the period of their loves, to the yoke of passion; if, on the other hand, it is generally admitted that marriage is the state most favourable to the happiness, well-being, and health of man, it is important to respond to the call of nature, as soon as the complete development and perfect conformation of all the organs allow. In the infancy of the world, the sexes obeyed in their union only the natural sentiment which attracted them towards each other; but philosophers, physicians and legislators, made of marriage one of the chief objects of their meditations. Seeking to determine the more or less advantageous influence which might result from it to the people, whose happiness they sought to assure, all agreed that the most serious inconveniences might flow from the premature union of the two sexes. In order to prevent the evil effects of marriage before the full development of the constitution, legislators have determined its epoch. Lycurgus and Plato fixed it at seventeen years for girls, and Aristotle at eighteen. Among the Romans, women were authorized by the Poppœan law, to marry at the age of twelve years; lastly, the Athenians, less scrupulous, permitted marriage as soon as individuals believed themselves fit to fulfil its end. This law, fatal to population in general, and especially dangerous for women, accorded with the customs and warlike policy of the people of Athens. As it would be both useless and fastidious to cite all the laws and opinions relative to marriage, we shall confine ourselves to saying, that the period ought to vary with the difference of place, of climate, of people, and with the degree of civilization, since these several circumstances may hasten or retard the first appearance of the menses and the age of complete nubility.

The French laws, before the Revolution, forbade legal union, for girls, before the age of twelve years; but, by the present code, they cannot enter into the conjugal tie until they have reached the age of fifteen years complete. The French legislators have permitted marriage at this early period after birth, because they deemed it neces-

* De la femme, sous les rapports physiologique, moral et littéraire, ch. xi. p. 78.

sary for the interest of good manners, inasmuch as accidental connections between the sexes might occur at that period, to leave some means by which to repair a fault, and legitimatize children who, but for this provision, would have a false and unhappy position in society. Moreover, if it be recollected that marriage is the most effectual means of removing the evils resulting from the violent desires which are often excited in young girls, at an early period, by the education they receive and by the prevailing customs of society, it will be agreed, undoubtedly, that the civil code has been digested with the utmost wisdom. Nevertheless, regarding woman only in her physiological aspect, we think that from eighteen to twenty-five is the age at which women may marry most advantageously for themselves and for their children. Besides, there is a rule by which we may always guide ourselves, which is, to place at least two years between the time of marriage and the first appearance of the menses. It is rare for the constitution to have acquired, before this period, the development necessary for the reproduction of the species. "If," as remarks M. Lachaise, in his *Hygiène*, "the indispensable processes of nature, occupied with the completion of its organization, are broken in upon by the premature enjoyments of marriage, the female will be exposed to a thousand risks, in her new position. Become pregnant, she will be unable to support, without the greatest difficulty, and at the expense of her health, the innumerable and unavoidable inconveniences of that condition: she will be liable to abortions and hæmorrhages, and the pangs of childbirth may cost her, perhaps, her life. Become the mother of delicate and sickly infants, she will pass her youth in uneasiness and tears; give to the offspring of her love an impoverished milk; yield herself, in order to rear them, to cares and watchings beyond her strength; hasten for them the approach of old age, and tear herself, perhaps, from life at a period when she is ordinarily strongest and most active." Though premature marriages are not invariably followed by such fatal consequences, we may say that they always influence, more or less, the physical and moral condition, and hasten the termination, already too precipitate, of youth and beauty.

In women who are well formed and fully developed, the first enjoyments generally produce a favourable impression upon the constitution: nevertheless, it sometimes happens that the generative organs become the seat of inflammation, or that newly-married persons suffer from some spasmodic disorders which readily yield to absolute repose of the organs, to the employment of general baths, sedative drinks, and narcotic and emollient enemata and lotions: lastly, to general depletion, where the pulse is full and the reaction very violent.

While a moderate indulgence in the venereal act generally produces useful effects, when too often repeated, it occasions lassitude, feebleness, and general depression; the beauty is soon destroyed, the grace and freshness of youth are withered; finally, when the abuse of coïtus is kept up, it may determine inflammations and ulcerations of the vagina and uterus, leucorrhœa, uterine hæmorrhages, disorders

of the digestive and nervous apparatus, acute and chronic gastritis, attacks of hysteria and nymphomania, feebleness of all the senses, loss of memory, stupidity, moral inferiority, caries of the vertebræ, aneurisms, especially of the heart, phthisis pulmonalis, marasmus and death.

Under all circumstances, young married persons ought to proportion their pleasure to their forces, and should recollect that the first conjugal approaches require certain cares and precautions, the forgetfulness of which might lead to the most unhappy results. When the consummation of the marriage meets with too great resistance, especially when there is disproportion between the organs, the husband, young, full of vigour and sometimes inexperienced, instead of abandoning himself to all his transports, should seek to overcome the obstacles with care and circumspection. In general, the difficulties which the first essays of marriage present, are least during the period of the menses and for some days afterwards. We may remark, also, that the use of unctuous substances, of emollient fomentations, and of general baths, and that the effusion of blood, even, which generally follows the first attempts, may determine a useful relaxation in cases of difficulty. Nevertheless, if too great a resistance should be met with, far from making violent efforts that might endanger the life of the woman, some unnatural conformation ought to be suspected, and the assistance of the surgeon be invoked against an obstacle which he alone can surmount without risk.

As conception is the most natural consequence of the genital act, and though the reproduction of the species is the chief end of the institution of marriage, there are yet certain circumstances, which, however imperious the tone of the senses, and however powerful the laws of the social condition, should be held as authoritative enough to forbid the sexual approach, as regards some women, in whom it threatens to become the fruitful source of dangerous diseases, and often, indeed, the cause of death itself. Among the number of deformities which contra-indicate marriage for such persons, we should place in the first class those which are capable of preventing the act of generation, or that of parturition, such as absence of the vagina or insufficient capacity of the pelvis. The latter-named fault of conformation would place the woman under the cruel alternative of undergoing the Cæsarian operation, or that for the section of the symphysis; or, at least, of seeing her offspring sacrificed and extracted piecemeal.

In general, we may presume that there is vicious conformation of the pelvic cavity, whenever we find a curve in the vertebral column, which allows the last lumbar vertebra to sink in towards the posterior and upper part of the pelvis, where the haunch bones are not very apparent, and are very much elevated on one side; where the thighs are closely approximated towards each other, and, in fine, where a curve in the long bones and swelling of their articular extremities indicate a general rachitic condition. It is true, however, that we have seen some horribly deformed women, with a well-formed pelvis, and lying-in very easily, while there are others

who, with all the appearance of a regular conformation, cannot bring their children into the world, and almost inevitably perish, because they have the superior strait of the pelvis with an antero-posterior diameter of not more than two inches. Parents who should suspect the existence of such pelvic deformity in their children, ought never to consent to their marriage, without first taking the opinion of a capable physician; for though an examination into the facts of such a case gives a shock to the modesty of the female, such a sentiment ought not to be put in balance against the life both of a mother and her child.

Among the disorders that ought to be admitted as obstacles to a legal union, we place pulmonary consumption, aneurism of the heart and of the large arterial trunks, idiocy, insanity, and even epilepsy, where that disease continues after the age of puberty.

In following out the order in which the various physiological phases of the life of the female succeed each other, we ought not to speak of the hygienic precautions applicable to the functions and various states of the female, having relation to the reproductive faculty; we pass them by in silence, because we intend, as we have stated both in the preface and in the last chapter, to speak of them very fully in another and independent treatise, which we propose to publish, upon the diseases and accidents connected with conception, pregnancy, parturition and lactation, but which do not constitute a part of the plan of this work.

On account of the reasons now set forth, we shall at once proceed to contemplate the prophylactic, hygienic and therapeutical measures applicable for the prevention of those disorders to which women are obnoxious at the change of life, under the influence of a final cessation of the catamenial office.

## HYGIENIC RULES RELATIVE TO THE CHANGE OF LIFE.

The period of the final cessation of the menses exhibits a less flattering and often a no less stormy prospect than that of their first appearance. Compelled to yield to the power of time, women now cease to exist as for the species, and henceforward live only for themselves. Their features are stamped with the impress of age, and their genital organs are sealed with the signet of sterility. This great revolution, this remarkable epoch of life, which most commonly happens between the age of forty and fifty years, but which is subordinate to the influences of climate, constitution and mode of life, to the social position and the healthful or morbid condition of the patient, requires such cares and precautions, of a hygienic nature, as may serve, as far as possible, to prevent the evils to which women are then known to be liable.

The first advice they ought to receive, is an advice to reject all sorts of drugs and preparations to which are attached such titles as health-pills, elixir of long life, or elixir of propriety, and all the receipts that are loudly proclaimed by ignorance, puffed by charlatanism and old-womanism, accredited by the attractions of a vogue and

by millions of so-called miraculous cures: the approach to the critical period less, perhaps, than any other epoch, admits of any infractions as to regimen, dress, bodily exercise, sleep and watching, the various excretions and also the affections and passions of the soul. The diet, which ought not to be too nutritious, may be composed of white meats, veal, chicken, fresh-water fish, vegetables, such as succory, spinach, acidulous fruits, cooked, and raw fruits very ripe. Such a person should reject all sorts of spiced dishes, ragouts, black and salted meats, coffee, tea, spirituous liquors, and, in fine, all stimulating and indigestible food. Plethoric women, who are subject to copious menstrual discharges, should renounce late suppers, should drink whey, cooling beverages, infusions with succory, and acidulous mineral waters. All such women ought to make it a rule to take moderate exercise, with a view to distribute, throughout the entire system, the excitability which is thus withdrawn from the reproductive system. Exercise, taken in attending to household affairs, is so much the more favourable, as it is proportioned to the physical strength, and superadds, to the natural effects of toil, the internal satisfaction arising from the fulfilment of duty. Lastly, riding out in the country, where one may go to inhale the bracing air of the morning; the cares demanded for the proper culture of flowers; short excursions into pleasant regions of country, where the land is high and dry, especially in agreeable company, also constitute the kinds of exercise from which may be derived the happiest results.

Women who have reached their critical period of life, should, with more than usual care, withdraw themselves from the influences of atmospherical vicissitudes, and especially from that of a cold, damp atmosphere,* which often gives rise to catarrhal disorders, leucorrhœas, &c. They would also do well to avoid, especially at those periods at which they were accustomed to menstruate—they would do well, we say, to avoid large assemblies, theatres, heated, close rooms, where only impure air can be breathed: they ought also to eschew all low and damp situations, to give up the use of foot-warmers; they ought not to sleep upon feather beds, nor in any bed that is too soft and too warm, for such are attended with the disadvantage of promoting plethoric accumulations, and disposing the system to attacks of uterine hæmorrhage, of causing constipation of the bowels, and exciting the generative organs, which should henceforth be left, as far as possible, in a state of inaction. Sleep, if prolonged beyond six or seven hours, long watchings, too much exercise of the mental faculties; sensations, whether too acute or too profound; wrath, love of play, and all sorts of passionate sentiments,—these are especially hurtful to a woman about the close of her menstrual life.

Love, a sentiment so gentle and so natural to the female, a passion which is, so to speak, the sole dominant passion of the sex, may,

* Among washerwomen and other females habitually exposed to damp cold, the cessation of the menses is, for the most part, distressing and tempestuous: such women, likewise, are more liable than others to leucorrhœal discharges, chronic inflammations, and cancerous affections of the womb.

at the critical age, produce the greatest disturbance in the nervous system; on this account, the use of venery could not be too moderate at this period of life, and should, in case of the appearance of any signs, be placed under a complete interdict. Under such circumstance, it is the dictate of prudence to avoid all such circumstances as might tend to awaken any erotic thoughts in the mind, and reanimate a sentiment that ought rather to become extinct, such as the spectacle of lascivious figures, the reading of passionate novels, and in fine, every thing calculated to cause regret for charms that are lost, and enjoyments that are ended forever.

Most women exaggerate to themselves the dangers of the critical age, representing the future in the most sombre hues; they should be reassured upon this point, and disabused of the false idea they generally form that their menses are designed to purge the body of some virus or impure principle, and that the cessation of the flow is about to become the source of numerous disorders. They should be reminded, that when this short period is once past, their sex has a better chance of long life than ours. The persons who live with them ought to turn aside their sad thoughts, and avoid all occasions of strong feelings, and seek, indeed, to inspire them with none but complacent affections: assisted by the counsels of medicine and of friendship combined, and arming themselves with courage for the conflict, the sex may hope to spend many happy days far beyond an age at which they suppose there is no further hope of happiness for them.

How great soever may be the advantages of the hygienic measures we have just proposed, the health of many different females still demands the rigorous observation of many precautions, and the employment of certain therapeutical agents, among which we may mention venesection, issues, enemata baths, and purgative medicines; bleeding is indicated, on account of the plethora which generally succeeds the final cessation of the menses. Recourse should be had to it at an early period, and it should be repeated from time to time, and at intervals, greater or less, according to circumstances. Bleeding at the arm is always to be preferred, because it should be rather derivative than spoliative. Bleeding in the foot ought to be rejected in these cases, as well, likewise, as the application of leeches to the vulva and thighs. This last method of abstracting blood is objectionable, as tending to increase the local irritation and plethora which it is so desirable to remove. However, there are cases, very rare ones to be sure, in which leeches may be advantageously applied to the hypogaster, and even to the vulva; such are the cases where the lower belly and the pelvic viscera are affected with acute pain, that venesection at the arm, even when several times repeated, has been found incapable of alleviating.

Constipation ought to be combated by the use of injections sweetened with honey, or prepared with the addition of a teaspoonful of olive oil. Suppositories of *beurre de cacao*, the use of the plunge bath and of gentle laxatives, such as Seidlitz water, tisans with prunes, tamarind whey, veal broth or vegetable broth, infusion of

wild succory, and other drinks of the same sort, containing a weak solution of sulphate of soda, are proceedings to be instituted with advantage to the patient. Drastic cathartics, especially aloetic purgatives, ought always to be rejected, for they excite the viscera of the pelvis, especially the womb and the rectum too much, accumulating in that direction congestions that frequently lead to attacks of metrorrhagia and obstinate hæmorrhoidal disorders. For similar reasons, we ought to abstain from purgative injections invariably, as well as from hip-baths, nor have recourse to common injections without care in the employment of them, and only in cases of absolute necessity.

Those women who, in early life, may have been subject to swellings of the joints, or of the lymphatic ganglions, to ophthalmias, and to cutaneous eruptions; and those, lastly, who happen to labour under chronic, mucous, or parenchymatous inflammation, &c., will act prudently by establishing some point of derivation upon the skin by an issue, and especially by a blister. Petit Radel has justly remarked, (*Notes on Fothergill*,) that the last-named exutory is preferable to the former kind, because it acts upon a more extended surface, and the irritation produced by it may be easily increased or diminished. Let us close by remarking, that the cessation of the menses, which is a physiological phenomenon, as natural as the first appearance, would almost terminate well, were it not that former excesses, careless dieting, and a treatment not unfrequently foreign to the principles of the art, intervene and oppose its progress. We cannot, therefore, too loudly proclaim to the sex, that infractions of the laws of hygiene may lead them into the arms of death at a period which would have been for them the commencement of a more tranquil life, and an existence exposed to much fewer dangers.

## GENERAL HYGIENE OF WOMEN.

Though the male and female are subject to the same laws of life, to the same wants, the same passions, although the act of living ought to be in common as to the two sexes, there are, nevertheless, in the application of the general hygiene of the female certain shades of difference, and pecular modifications, in regard to which we consider it a duty to offer a few remarks.

To proceed with a more regular method, and particularly that we may avoid any important omissions, we shall review, in succession, the six classes that constitute the substance of hygiene.

1. Circumfusa, or *surrounding circumstances.* If it be true, as the sage of Cos observes, that air is the aliment, the pabulum of life, it also happens that it may become the aliment or cause of death, in the disorder of which it is frequently known to be the pernicious cause; as women are by nature more sensitive and impressionable, and possess smaller lungs, that are more irritable, and more liable to phthisis, they are of course more injuriously affected than men are by the influence of atmospheric vicissitudes. Precautions in regard to the respiratory organs deserve, in an especial manner, to fix our

most particular attention at the approach to puberty, during the act of menstruation, at the change of life, and in fact, at all the epochs of the life of the female that are characterized by an increase of the general susceptibility.

Women, particularly those in whom luxury and ease have given additional acuteness to their impressionability, ought, as far as possible, to inhabit elevated apartments; they should avoid crowded saloons, where the air is both too hot and unwholesome; they should be particularly careful not to pass carelessly from a high to a low temperature; when compelled to do so, or to remain for some time with a part of the person unprotected, they might greatly lessen the risk of injury from the sudden transition of temperature and from the pernicious tendency of sudden cold, by stopping for a while in a cooler apartment, or by keeping up an artificial warmth by walking, or any other brisk motion; those who are of a delicate constitution, and prone to catarrhal and tuberculous disorders, would act very wisely by rendering their parenchymatous organs and their whole mucous system, and especially the bronchial and genital mucous membranes, less impressionable, by keeping up a gentle excitement on the skin by wearing flannel jackets and drawers; they may also weaken the evil powers of dampness and cold, by using mild tonic drinks, and food both nutritious and easy of digestion.

The changes that the constitution of the air may undergo are sometimes extremely hurtful, especially to women. They ought, as far as possible, to interdict for themselves all places of resort where great numbers are assembled, such as balls, shows, concerts, &c. Without dwelling in extenso upon the effects of exhalations and gaseous effluvia, we shall be satisfied with saying, that the habit indulged in by some females of surrounding themselves with odours, deserves to be mentioned, on account of the accidents and the real dangers which accompany such habits. Nervous persons should, therefore, not only shun the impression of powerful odours, and perfumes even the most delicate, but they ought not to have in their chambers flower-pots and vases filled with flowers, which are attended with the double inconvenience of affecting the nervous sensibility too powerfully, and of decomposing the air by the exhalations of carbonic acid gas. Among the numerous cases in point that we have it in our power to cite, we shall confine ourselves to the case related by Cromer, that of the daughter of Nicholas I., Count of Salin, who died after having inhaled the odour of a rose; in 1774, a woman in London was found dead in her bed in consequence of having breathed the odour of several full-blown lilies that she had placed in a small chamber. Triller, (*Clinotechnia Medic. sive de diversis ægrot. lectis*, 1774,) saw a violet give rise to a distressing accident: under nearly similar circumstances, the emanations from some lilies in blossom very nearly proved fatal to the wife of Saumonier, the distinguished Rouen surgeon; lastly, on the night of the 10th August, 1837, Mad. ——, the Duchess d'Ab***, was upon the point of being asphyxiated from having slept for several hours in her bed-room where her friends and

the admirers of her literary talents had deposited their presents of flowers on the eve of her birth-day.

From the facts above related, it is easy to judge that women ought to abstain from perfuming their apartments with flowers, essences or oriental pastilles, and from carrying about their persons, perfumery and sweet-scented bags, which are capable not only of powerfully affecting the nervous sensibility, but even of acting as the occasional causes of syncope, of asphyxia, and a variety of spasmodic disorders to which the sex are peculiarly prone.

Let us add that the abuse of perfumes is attended with the objection that it may exalt or depress the power of the sense of smelling, and that Montaigne has judiciously remarked, "*que la plus exquise senteur d'une femme, c'est de ne rien sentir*" bene olet quæ nihil olet.

Among the most mischievous habits indulged in by females we ought to signalize the use of foot-stoves, which disengage a quantity of carbonic gas, and likewise excite the genital organs and predispose to fluor albus, and uterine hæmorrhage, to piles, varix, ulcers on the legs, &c. Persons whose avocations expose their feet to cold, would do well to substitute for the foot-stove a *chancelliere* [a small box, lined with bear skin, to put the feet in.—M.] or a tin vase filled with warm water.

2. Applicata, or *things applied to the surface of the body; clothing, attention to cleanliness, cosmetics, &c.*

Inasmuch as there is attached to our clothing the precious advantage of guarding the body from the immediate impression of the atmosphere, and thus of annulling, to a certain extent, the influences of atmospherical vicissitudes, it is very important that all parts of the female dress should be constructed with reference to their manner of life, the circumstances in which they are placed, and the prevailing temperature of the air. In winter, they should wear woollen stuffs, or silken stuffs wadded, or doubled, which, while they are both supple and light, yet keep up a good degree of warmth about the person, from their being bad conductors of caloric. Although furs are possessed of the same property, they are inconvenient, because, upon leaving them off merely for a short time, the person becomes sensible to the slightest cold. In summer, they should make use of linen or hemp, whereas, in the fall and spring, the variableness of the season requires the use of dresses that are moderately warm. Lastly, at all seasons of the year, females ought not, without great care, to lessen the number of their garments, or suddenly change them for others less preservative against sudden changes of the weather. It is equally important for them at all times and seasons to keep the bosom and the arms covered, and most especially is it important during the act of menstruation.

The form of the female dress also deserves attention; it should always be large enough not to interfere with a perfect freedom of motion, and not to exert any compressing power on the several parts of the body; the corset, especially, when badly constructed, or too

tight, interferes with the motion of the body, prevents the expansion of the lungs, and favours a stagnation of blood in the internal parts of the body, disposing them to be attacked with inflammation, and in consequence thereof, with consumption. Moreover, they painfully compress the breasts, and act as causes of cancerous engorgements and indurations. It is but just, however, to state, while the corset, when too small, too tight, and supplied with strong whalebone and a steel busk, is almost always hurtful, the elastic corset, well fitted to the shape, furnished with ample gussets to receive the breasts without compressing them, and besides unprovided with the busk and applied moderately tight, lends grace to the figure, gives a useful support to the bosom, increases the energy of the muscles on the chest and abdomen, and, in fine, obviates a disposition to divide, met with in some of the muscles, prevents the escape of the abdominal viscera from the cavity of the belly, as well as the deviations of the womb, in pregnant and lying-in women. It should be said, furthermore, that a corset, when well made, ought to adapt itself to the hips and other parts of the body, and not these latter to the corset, as the fashion required a few years since. The use of whalebones, far from being injurious in all cases, as most authors consider them, is, on the contrary, useful, provided they be made very thin and flexible, for they prevent the numerous folds that the various motions of the wearer would make in the corsets, and which, as well as the pain that attends them, could be no otherwise prevented than by making the corset fit much tighter than when provided with whalebones; it is right to remark, also, that the shoulder-pieces ought to be very large, and especially very elastic, but, that although we recommend to full-grown women the use of a corset not too tight, we look upon their use, before the age of puberty, as very hurtful.

Frequent changes of clean linen, and strict attention to cleanliness, deserve the most scrupulous attention of the female; she ought to take a tepid bath at least once a month, the effect of it being to cleanse the skin, render it supple, promote the peripheral circulation, excite perspiration, and thus assist nature in one of her proposed ends. The temperature of the bath ought to be so adjusted as to excite a sensation neither of heat nor cold; it should simply be agreeable. This last is always to be preferred to that of the thermometer, which, although it does indicate the temperature of the water, yet it does not indicate what may happen to suit the state of the bather. River or sea bathing, in the summer season, most generally agrees with the constitution of the sex, but hip-baths, which tend to produce a congestion of the pelvic viscera, should always be forbidden, except under some special indication, of which a skilful physician alone is the fitting judge.

Among the attentions to cleanliness, we ought to place in the first rank those that refer to the cure of the sexual parts. The ONLY liquid that a woman ought to use for her *toilet*, at all seasons of the year, except winter, is fresh water; in the winter season it ought to be tepid, that is, it should be made as warm as it is in the warm season. Very cold water might produce inflammation of the vagino-uterine

mucous membrane, and thus bring on the whites, whereas, the frequent employment of tepid water is attended with the risk of relaxing the genital organs, and giving them a disposition to be affected with hæmorrhage.

For the purpose of injecting the vagina, it is best to make use of a syringe with a curved canula ending in an olive, with several holes in it; by such an arrangement of the canula, the woman is not subject to too violent an impulsion of the liquid against the os tincæ. It is just to state, moreover, that all those toilet vinegars, those essences, the astringent compositions, and all those mysterious waters that the perfumers have the talent to produce, under a variety of picturesque titles, should be proscribed by females who attach any importance to the conservation of their health; it is, at the same time, useful for them to know, that certain preparations invented by the corruption of the public manners, and which are the occasional resources of mere libertinism, are far from equaling the precious character of true innocence.

A desire to please, and to conquer all hearts by her beauty, has, in all countries, and in all ages, been one of the most important occupations in the life of the female; to attain this end, her imagination, fruitful in inventions of the sort, has suggested to her various means, in the first rank of which is the *cosmetic*. These articles, which, as their name shows, are designed to embellish the skin, have fallen into the hands of a set of charlatans, who have transformed them into a thousand shapes, more or less prejudicial to the health, and always useless, "*pour réparer des ans l'irréparable outrage.*"

If there really are any cosmetics, which are unattended with injurious effects upon the skin, such as the aromatic distilled waters, &c., the greater proportion of them, especially the different sorts of *rouge*, and among others, the red and the white, compounded of metallic preparations, such as lead, mercury, antimony, bismuth, arsenic, &c. &c., are extremely hurtful, and are, at the present day, wholly abandoned to the use of players, courtesans, and a few old coquettes. Far from producing the effects so much wished for, these various preparations are fit for nothing but to precipitate the appearance of age; they deepen the wrinkles, ruin the skin, arrest the perspiration, bring on tetter of different sorts, pimples, and erysipelas. It is true, that some of them succeed in dispersing spots, and some forms of cutaneous eruptions, but then they are generally followed by metastasis and repercussion, that are mostly very dangerous. Salivation, tremors, palsy, convulsions, colica pictonum, ophthalmias, inflammation of the stomach, of the liver, and the lungs, have been the miserable consequences produced by the application of various metallic preparations to the skin. It is a duty, however, to observe, that the *rouge*, called vegetable rouge, prepared from the carthamus, as well as that extracted from red sanders wood infused in alcohol, from cochineal, from the root of the alkanet, Brazil wood, and other vegetable substances, is attended with little danger, provided it be seldom employed, and in moderation. According to Professor Chaussier, the steatite may be made use of, without much inconvenience,

for the purpose of whitening and polishing the skin, and even as a preservative against certain contagious disorders.

Where fresh water, the best and most efficacious of cosmetics, will not suffice to cleanse the skin, or restore its brilliancy and suppleness, lost by the abuse of pleasures, prolonged vigils, the use of paint, the action of the air, and the solar rays, &c., the ladies may successfully employ a balsamic lotion, prepared by mixing ten drops of balsam of Mecca, a drachm of sugar, the yolk of an egg, and six ounces of distilled rose water or fleurs de fève. She might, likewise, make use of the cucumber ointment, *beurre de cacao* ointment, or sweet almond ointment, taking care to get them fresh, and without any combination with the metallic salts, that certain perfumers are in the habit of mixing with them.

Cucumber ointment, or the salve made with the same vegetable, and coloured with alkanet, and perfumed with a drop of essence of roses, is the only article that can be safely employed, either for protecting the lips from the irritating action of cold weather, or for giving them the vermilion tint which disease had deprived them of. A woman ought always to refuse to employ the different sorts of vinegars and spirituous preparations that are often recommended for the same end. She will do well, also, not to use, without great circumspection, most of the so-called *treasures* of the mouth, into the composition of which various acids are known to enter, and the presence of which renders them quite injurious to the teeth;* the tincture of guaiacum, the vinous tincture of bark, and the spirit of cochlearia, are the best dentrifices for the preservation of the mouth. A mixture of water and alcohol, with a few grains of sal ammoniac, may also be very beneficially employed, and the powder of Peruvian bark, or charcoal, or burnt bread incorporated with honey, compose an opiate which is very suitable for whitening the teeth, removing the tartar that encrusts them, and thereby for preserving them from the attacks of caries.† This opiate ought to be used at least once a week, and it is right to rinse the mouth after each meal, with cool wine and water, and to do the same thing every morning, with water containing a portion of some one of the liquid dentrifices we have mentioned, or merely a little eau de Cologne; no one should ever clean the teeth except with a soft brush, nor should they take cold drinks immediately after taking their food very hot.

The cosmetics prepared for the hands, and all the cutaneous surfaces, with a view to their neatness, consist of pastes and flour of sweet and bitter almonds, of fecula, and of aromatic soaps. We think it a duty, however, to say, that the Windsor and Palmyra soaps, which are in most general use, are but ill suited to preserve the softness and suppleness of the skin, because they always contain an

* Dr. Regnard, (*Recherches sur la carie dentaire*, 1838,) has proved, that the action of acids on the teeth is the most common, and almost sole cause of caries.

† M. Taveau, a skilful dentist at Paris, and author of an excellent treatise on the hygiene of the mouth, makes a most successful use of a *ciment oblitérique*, for the purpose of arresting caries, and curing pains of the teeth; it is composed of anhydrous sulphate of alumine, and an alcoholic and etherial extract of the *pistachia lentiscus*, of the isle of Chio.

excess of alkali, which dries, and at last cracks it. None of these objections are chargeable against the liquid soap, called *Oléine*, prepared by M. Guerlain, Perfumer, at Paris.

The caustic substances that enter into the composition of depilatories should be sufficient motive for rejecting their use; not only may they give rise to serious symptoms, but there is the further objection that they do not fulfil the end proposed, for the hair which they cause to fall soon grows again. All those metallic substances also, that are used for dyeing the hair should be banished from a lady's toilet as being very dangerous articles. They mostly consist of nitrate of silver, or a mixture of sulphuret of lead and quick-lime, to be diluted with water at the time of using it. We add, as to what relates to the care of the hair, that she ought to confine herself to the use of the comb; to wash it from time to time with water, and to detach the dandruff occasionally with a brush. and, lastly, she should tress it with a grace, and perfume it occasionally with some perfumed oil. We shall close by reminding the ladies that too frequent dressing of the hair with hot curling tongs dries and makes it early turn gray; that metallic combs cut it, and that the various pomatums recommended for improving the growth of the hair, have no other effect than to cover it with a coat of grease consisting, for the most part, of coloured tallow, perfumed and occasionally mixed with oil or beef's marrow. Let us observe, moreover, that cleanliness and native elegance, the graces of the body as well as those of the mind, and, in fine, good temper and modesty, are the most powerful of cosmetics.

Ingesta. *Food, drinks*, &c.—Although it be difficult, not to say impossible, to trace out the rules of alimentary regimen applicable to all women alike, we may state that their food ought to be proportioned to their constitution and to the exercise they undergo, as more or less fatiguing. Their taste naturally inclines them to prefer such dishes and beverages as are easy of digestion, and most of them likewise are very fond of fruits—preparations of milk and all the lighter kinds of food, or such as are taken from the vegetable kingdom. Yet some there are who, giving way to a false appetite, have the habit of overloading the stomach with food; but it generally happens that their exaggerated digestive power leads them to a state of corpulency and excess of embonpoint which, by depriving the body of its suppleness, its activity, and all its natural proportions, are as unfavourable to its beauty and its health, as leanness itself. There are also many women to be met with who are extremely addicted to the use of high-seasoned food and to spirituous and aromatic drinks; but most of those who thus transgress the laws of hygiene are found to be barren, lean, of a bilious temperament, and subject to attacks of uterine hæmorrhage, disorders of the menstruæ, cutaneous eruptions, and also to inflammation of the womb and bowels. Women who desire to retain, during the longest possible period, the advantages of youth, of beauty, and above all, of health, should wholly abstain from liquors, stimulating, acrid and spicy dishes, from fat meats, pastry, and in one word, from all kinds of food artfully prepared to

exaggerate the limits of the appetite, and create factitious wants. Light kinds of food, derived from the vegetable kingdom, meats of easy digestion, boiled or roast meats, fish, birds and game plainly dressed, milk in its various preparations, fruits, herbaceous vegetables, and lastly, water, either pure, or with a little red wine—such should be the constituents of diet for a woman from puberty to the change of life. We, moreover, give it as our opinion that the frequent use of tea and coffee is in general hurtful to very nervous women, and especially to those who shine less by their intellectual qualifications than by their beauty and all the perfections of their merely physical nature.

4. Excreta. *Excretion of the menses, the fæces, the urine and sweat, &c.*—Our bodies so often waste and repair the materials of which they are constituted that we may compare one of them to the vessel of Theseus, which was so often repaired that at length not one piece of its original timbers was left. As the condition of health chiefly depends upon the perfect harmony of this double action, it is easy to understand why it is of importance to promote, and sometimes to moderate the different secretions of the animal machine. Women should not only follow out the hygienic rules we have traced for them in reference to their menstruation, but they ought to pay a special attention to the excrementitial evacuations, to see that they are effected in due proportions, at the periods, and by the routes assigned for them by nature. Their attention is chiefly required as to the urinary and fæcal evacuations, that is to say, they ought to yield to the first solicitations of the one, and facilitate the expulsion of the other, by mild food, cooling drinks, and occasionally by means of emollient enemata, and by suppositories, where there happens to arise a state of obstinate costiveness. It is needful, also, to watch with the same scruples, the state of the perspiration, remembering that on the one hand, too much perspiration brings on general debility, and renders the skin susceptible to the vicissitudes of the weather, whilst on the other hand, a sudden suppression of the sweat occasions an infinity of disorders of a nature more or less severe. To keep up a gentle perspiration of the whole skin; to keep the person perfectly clean; to dress moderately and suitably as to the season; to abstain from all immoderate exercise, and, lastly, to avoid sudden transitions from heat to cold; such are the means by which they may keep up a constant regular exercise of the functions of the economy.

5. Gesta. *Exercise, late hours, sleep, rest, &c.*—To keep herself in a state of health as perfect as may comport with the mobility of the organization, the female should addict herself to a moderate amount of exercise, which should end, however, as soon as it becomes fatiguing. All the world knows that the celebrated Tronchin, when he was called to the court of Louis XVI. and consulted by nervous ladies as to their disorders, never recommended any thing but exercise, sustained and varied by all sorts of dissipation. He pushed the rigour of his orders so far as to prescribe for them the very duties their valets had been accustomed to perform for them; and the

coquettes and high dames of the court were seen polishing the inlaid floors, which they had before scarce deigned to press with their feet.

We ought, also, in this relation, to bring to mind the inestimable value of rural pursuits. The aroma of plants and flowers exhaled at sunrise, the oxygen which is set free in torrents under the influence of light, the ravishing aspect of nature, the melodious song of the birds, all serve to procure the most delicious sensations, and impart to the organs an incredible amount of strength and health.

Among the exercises to be regarded as most suitable for females, are those connected with house-keeping, walking, as an amusement, or as a prescription, riding on horseback, jumping, and above all, dancing, provided it be not continued to a late hour of the night, nor indulged in immediately after a repast or during the catamenial flow. The waltz, which has on very good grounds met with many opponents, conjoins with the disadvantage of fatiguing too much, the greater one of propelling the blood too strongly towards the principal internal organs, and especially the heart, lungs and brain. Speaking, reading aloud, and, above all, singing, contribute more powerfully than might be supposed to the conservation of the health, and the prevention of many affections of the lungs and stomach. Moderate exercise, moreover, increases the appetite, facilitates the digestion of the food, energizes the circulation of the fluids, promotes the secretions and the excretions, and augments the power and activity of all the systems of organs. When carried to excess, it is far from producing such salutary effects; for it then exhausts the organs, reduces the strength, and renders all the functions languid. In fine, leisure, indolence, luxurious habits, the soft and sedentary tone of life which are the very vices of education among the wealthy, leave the body in a state either of debility or of lymphatic embonpoint, and frequently constitute the chief causes of a thousand nervous affections and that excessive sensibility which renders even the gentlest impressions absolutely painful.

It is impossible to repeat too often, that exercise is the surest antidote to the continued state of suffering complained of by many ladies in high life. Let a languishing coquette, pale and vapoury, keep company with strong, healthy village girls, and participate in their labours as well as their amusements, for awhile; she will soon find in herself a most admirable metamorphosis! Her digestion, which was disordered, will be gradually restored; her strength will return in company with the freshness and bloom of her complexion; indeed, her whole nervous system will be corroborated, and the desperate languor and mobility which constituted a continued state of suffering, will soon give place to a stable and brilliant condition of health.

Rest, which is as needful as exercise, should be enjoyed in proper proportion. Late hours are always prejudicial to the health of the sex, because they cannot repair, in the morning, the losses of sleep at night, nor with impunity invert the invariable order of nature. With those among them, who, as they say, turn night into day and day into night, all the organs suffer, the functions are deranged, the nutrition is very imperfect, the physical constitution loses its energy entirely,

and the appearance and bloom of youth soon depart and give place to wrinkles and old age.

Although sleep is a means of restoration, with which nature endows us, it ought not to exceed certain bounds, that is, it ought not to be prolonged beyond from seven to nine hours. Sleep solicited by too soft a bed, plunges the nervous system into a sort of stupor, induces debility rather than procures strength, and brings about a fulness of the vessels, followed by torpor of the circulation, and not rarely by hæmorrhage. Upon the whole, the female ought to retire early to bed, be up betimes in the morning, and pass her waking hours in occupations that may exercise without fatiguing the organs.

Percepta, *passions, intellectual labours, &c.*—Helvetius says "that the passions are the celestial fire that vivifies the moral world; it is to them that the arts and sciences owe their discoveries, and man the elevation of his position." It is true, however, that, while some of them are useful to him, the greater proportion of them agitate the current of his existence, fill it with storms, and curtail its duration. Their influence upon his health is questioned by none, whether they act slowly or whether they burst forth with impetuous violence: in the former, they are like a concealed poison that destroys; in the latter, like a devouring flame. Notwithstanding that each one of the passions possesses a character peculiar to itself, and discloses itself by characteristic signs, they all have this in common, that they pervert the habitual order of the organs. The concentrated passions, such as jealousy, hate, fear, envy, grief, and its varied forms, direct their action principally upon the diaphragm, the stomach, liver and womb, all whose functions they are capable of disturbing.

The intense passions, as well as emotions, whether agreeable or painful, felt in excess, impart shocks so violent that the most alarming symptoms, and even death itself, may be brought on by them. Tissot knew a female at Lausanne, who fell into convulsions whenever the name of her rival was mentioned in her presence. In the annals of France, we see that a princess of Condé died of jealousy, on hearing that her husband had attached himself to a lady of honour to Catherine de Medicis. Valerius Maximus speaks of an Athenian lady who lost her speech in an excess of rage; and Buchan reports the case of a woman who died suddenly with cerebral hæmorrhage, produced by a similar cause. Lastly, Professor Rostan saw a lady perish in the course of two days, with an attack of peripneumonia, with which she was seized upon reading a letter that announced the death of her son. Let us further add, that a sordid interest led to the sudden death of Leibnitz's niece. That celebrated philosopher had scarcely yielded his last sigh, when his avaricious heiress caused his trunks to be opened, and, upon seeing the piles of gold he had bequeathed to her, was so filled with delirious joy, that she expired before she could count them, (*Eloge de Leibnitz*, by Fontenelle.) We also observe that Cromwell's daughter, after the execution of Charles I., was so indignant at having for her father the assassin of her king, that she died of despair. Although the lively emotions and impetuous movements of the soul do not

always produce such fatal effects, they always act in an injurious manner upon the economy, and principally among women whose sensibility and imagination are commonly of an exalted cast.

We conclude with remarking, that literary labour, abstract studies, protracted meditations, which, in a manner, concentrate all the vital forces upon the organ of thought, are also very prejudicial to females. Conflicts of the mind are especially hurtful to them, at the period when nature calls upon them to fulfil the important functions of their sex, and at an age when they ought to shine rather by the advantages and graces of youth, the art of pleasing and the charms of their conversation, than by a scientific or literary reputation, which men, even, never purchase but at the expense of both their health and their happiness.

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# SECTION SIXTH.*

## CHAPTER XI.

### LESIONS RELATIVE TO REPRODUCTION.

Lesions and sympathetic phenomena produced by conception, pregnancy, labour and lactation.

In the female, the lesions relative to reproduction may refer to her as in a state of conception, pregnancy, labour or lactation.

Among the lesions connected with conception, we may name impotence and sterility, false pregnancy, moles and extra-uterine pregnancy, which we shall here proceed to consider; and, first,

#### OF IMPOTENCE AND STERILITY.

With a view to establish what we conceive to be a useful distinction betwixt impotence and sterility, let us make such a definition as to prevent their being confounded together.

By *impotence* in the female, we should understand an inaptitude for conception, dependent on a fault of the physical condition, rendering the accomplishment of the reproductive act more or less impossible.

*Sterility*, on the other hand, is an incapacity, in any woman, to conceive, notwithstanding that copulation may, in her case, take place in a natural manner, and be accompanied with all the apparent

* This is the commencement of the third volume, or supplementary volume, which appeared in the year 1843. It was M. Colombat's intention to close his labours with the last paragraph; but I am happy to think that he has been enabled to bring his task to a later conclusion by the following fine essays on the Diseases of the Pregnant and Lying-in Woman.

conditions of fecundation. From the distinction now set up, it follows, that a woman may be impotent without being sterile, and *vice versâ*.

Among the causes of impotence, all of which are connected with some deformity of the genital organs, we may enumerate absence of the vagina, primary or accidental obliteration of that tube, excessive contraction or undersize of it, produced by a deformity of the bones of the pelvis, or by a tumour that cannot be removed; and, lastly, cohesion of the labia or nymphæ; persistence and firmness of the hymen, or any other membrane in the vagina; excessive magnitude of the clitoris, and all other deformities of structure preventing the accomplishment of the genital act, and which may, often, be remedied by various operations that were treated of in the fifth chapter of this work. Let us add, that prolapsus of the womb or vagina, a communication of the vagina with the rectum, as well as a very great amplification of the size of the vagina, produced by a laceration of the perineum, do not constitute absolute causes of impotence.

The *causes* of sterility, a case difficult and often impossible to ascertain, are, absence of the womb, inclination, incurvation and occlusion of the womb; chronic inflammation of its texture and of its internal membrane; its spasms, its atony and its hæmorrhages; also the absence of all uterine cavity, absence of the ovaries, specific diseases of the ovaries, accompanied with degeneration of their structure, obliteration and chronic inflammation of the Fallopian tubes, and all the disorders of the genital organs which yet give no signs leading to a suspicion of their existence during the lifetime of the woman.

[I saw, a few years since, a lady who was attacked with symptoms of *iliaca passio*. Nothing relieved her, and she died with the appearance of a person labouring under strangulated intestine. Upon examination, after death, a knuckle of intestine was found to have passed under a band within the pelvis, and to have become fatally strangulated there. This was one of numerous bridles which had been produced many years before, when this lady was about thirteen years of age, and suffered from an attack of peritonitis, to which she had nearly fallen a victim. Her Fallopian tubes were adherent, so as to render their physiological function impossible, and, indeed, she had passed many years in wedlock, without having conceived. I suppose that young girls attacked with peritonitis, ought to be held very liable to the accidental destruction of their reproductive power, by this very adhesion of the tubes.—M.]

There are two kinds of sterility that may be called physiological, since they are natural to all women: the first is that which exists in young girls previous to puberty, and the second takes place in women who have passed beyond the change of life. Women giving suck are also very often found to be barren, and particularly during the early months that follow the birth of the child, because the vital forces are then concentrated upon the organ of lactation.

Sterility seems also to be more common in hot than in temperate

and high northern latitudes: the abuse of baths and of venereal pleasures are perhaps the causes of it. There is not any doubt that women who abuse these pleasures are like the whole class of prostitutes, very subject to sterility, which, moreover, is far more common in women than among men. It is, therefore, not without some show of reason that when a couple, of proper age, continue to be without offspring, it is the woman who is generally accused of barrenness.

Generally speaking, sterility proceeds from some congenital affection; and, in a multitude of cases, the cause has been supposed to be discovered. Among the most common and indubitable of these causes, is absence and irregularity of the menstruation. Notwithstanding, we have reported some instances of women conceiving, though they had never menstruated, and of others who had never menstruated except during their pregnancy, it nevertheless holds true, notwithstanding such rare facts, that the menstrual discharge is the most certain indication of the aptitude of a female for conception.

A habit of excessive menstruation has also been regarded as the cause of non-fecundation in some cases; also, profuse leucorrhœa, when habitual. A painful sensation, *durante coitû;* absence of the exterior attributes of the female sex, and of voluptuous desires and sensations, at the conjugal approaches; a considerable embonpoint, or want of consonance betwixt the husband and wife, as to temperament: in fine, too violent and too frequently repeated transports, as well as a constitution as to the female, that resembles too closely that of the male; such as we observe in tall women, with small mammæ, strong coarse voice, and brown skin, covered with hairs in places usually destitute of them, in the sex.

While compelled to admit that in certain cases, some of the circumstances we have now particularized really constitute conditions that are unfavourable to conception, ought we not, at the same time, to confess that almost all the theories, as well as the cases on which they are founded, are diminished as authority, by other facts that greatly lessen the value assigned to them by writers. Indeed, do we not daily observe that women bring forth children, notwithstanding they may have been subject to profuse menstruation, or have had copious discharges of whites, but who are in fact more liable to abortions and premature delivery than other women are? Is not the same true, as to the supposed contrast betwixt the two spouses, sustained with so much vigour by Lucretius, and especially by Bernardin de Saint-Pierre, with all the power of his poetical style and his brilliant imagination. Though certain women are known not to have been impregnated by one husband, though they have borne children to another one, ought we to count for nothing the greater generative power of the last husband; and, besides, is it not often the case, that a woman shall be sterile for a certain time only, and that many of them have become pregnant after being several years married, yet without any change of husbands? Anne of Austria gave birth to Louis XIV. after twenty-two years of barrenness, and Catherine de Medicis brought forth the first one of her ten children after she had

been married ten years to her husband, Henry II. Is it not also known that women, even such as manifest the greatest indifference for their husband's embraces, or who have been very fat, could yet be impregnated by the embraces of men of character, age and temperament, the most various? Farther, are there not many who become mothers, without taking the least voluntary part in the genital act, inasmuch as they had been surprised by force, or had been in the lethargy of the profoundest narcotism?

[I have attended, during many years past, a considerable number of cases of leucorrhœa, in which the discharge consists of a small quantity of viscid mucus, coming away from the genital organs at intervals, and not escaping by a steady or continuous flow. In most of the cases, the mucus is thick, translucent, or even transparent, or only slightly opaque, and amounts to about a teaspoonful. In certain persons, I have observed that but one discharge took place per diem, and that in the afternoon, leaving the patient free from discharge during all the rest of the day. By using the speculum uteri, I have repeatedly seen this mass or lump of phlegm sticking in the os uteri, and have removed it from there with a bit of sponge: it is cohesive and ductile, so that if caught upon the points of the sponge, the whole mass seems to be drawn out from the cervix.

I am of opinion that this substance is produced by the mucous glandules and follicles just within the os uteri; the same that so abundantly secrete it in the beginning of labour. Indeed, the mucus of this leucorrhœa is precisely like that of the dilating cervix uteri in labour. I believe that all women thus affected are sterile; at least, the disorder has been invariably accompanied with sterility, in my patients. The treatment by nitrate of silver, by leeches to the os uteri, by alteratives, astringents, tonics, and, indeed, by whatever measures, is in general very unsatisfactory. I have, in two cases, removed the symptoms by means of the dilating bougie, as recommended by Dr. Mackintosh, in his *Practice of Physic*, under the head "Dysmenorrhœa;" but my success, in the use of the bougie, has not equalled the expectations raised by his publication.

For such a case, the occasional cauterization of the canal of the cervix, with nitrate of silver, or a pencil of sulphate of copper, in a proper caustic-holder; astringent injections, baths, and the total change of the constitutional state produced by a long voyage, a journey and change of climate, afford the most probable grounds of hope to effect the cure.—M.]

From the foregoing, we ought to conclude that much doubt rests upon questions concerning the causes of sterility, and, of course, that we should put numerous restrictions upon all the circumstances that are looked upon as giving rise to it, and which must always continue to be very obscure, for want of a rigorous examination and from the impossibility that generally obtains, of ascertaining the real state of the internal genital organs of the female. There are, therefore, no certain signs by which to distinguish a barren from a fruitful woman.

Hippocrates, indeed, remarks that fruitful women are small, of dark complexion, menstruating freely; that they have well-developed and projecting breasts, with the womb dry, neither contracted nor too low. He adds that, on the other hand, sterile women are pallid, do not menstruate well; they are fat and fleshy, too ardent or too cold in love, and are generally troubled with leucorrhœa and with headache.

He also says, (Aphor. v. 62,) that those who have the womb cold and dense, as well as those who have it moist, do not conceive; in them the embryo perishes: such as have a very dry womb are likewise unfruitful, because the semen is destroyed for want of nourishment. Notwithstanding all these assertions of the father of Medicine, and a multitude of other assertions of the same sort, what numerous exceptions do we not find to these general rules; since we meet with fruitful women of all the various temperaments, while we also observe a great many who are barren, but who yet enjoy the most perfect health, and the most regular conformation.

Seeing, then, the great uncertainty as to the causes of sterility, we may readily comprehend how inefficacious must often be the remedies proposed for its cure. The success of these measures in some cases cannot even go to prove their utility, even in those very cases, inasmuch as we often observe that sterility disappears in women long barren, without having it in our power to appreciate the circumstances which may have restored the aptitude for fecundation.

Although, strictly speaking, sterility is not a disease, it may be accompanied by such serious moral consequences, that it is important to set forth in this connection the chief measures that have been employed for its removal under various circumstances.

*Treatment.*—When the barrenness depends upon faulty conformation, and upon diseases of the womb, we may hope to combat it by remedying its deformities and curing its diseases, either by means of the different operations we have pointed out, or by medical treatment appropriate to the disease, all of which have been treated of in this work. It must be unnecessary to state that in some cases sterility is wholly incurable.

If we suppose in a case, that non-fecundation depends upon an inclination, and particularly upon an anteversion of the womb, we might recommend the coïtus *more ferarum, quadrupedumque ritû*, in accordance with the advice given by Lucretius. Further it would be proper in all cases to recommend the sexual approach just before and after the mensual apparition. This is the moment when the mouth of the womb is open, and when the organ has the greatest amount of action, and is therefore most apt for conception. It was by giving to Henry II. the counsel, previously imagined for such cases by Hippocrates, that Fernel was so fortunate as to procure for France a Dauphin, and to put an end to the sterility of the Queen Catherine de Medicis.

If it be supposed that an excessive degree of ardour in the genital act, is the cause of the sterility, it might be useful to prescribe an emollient regimen, baths, light food and cooling drinks, and especially the use of cold milk, containing a teaspoonful of lime-water to every cupful. Long walks and journeys could not but be useful. In

contrary circumstances, that is, where the woman is of a lymphatic and cold constitution, and remains indifferent to the conjugal caress, we might recommend country air, tonic and stimulating baths, especially the sea bath, chalybeate and sulphurous waters, such as those of Forges, of St. Alban, Vichy, Aix la Chapelle, Baréges and Aix in Savoy. The patient would be the better, likewise, for a substantial diet, as black meats, eggs, a glass of generous wine, chocolate, salep, sago, celery, mushrooms, truffles, vanilla, and the various analeptic and exciting articles. In fine, where there exists a complete state of anaphrodisia, we might advise the frequentation of the ball-room, the theatre, and even the reading of romances and other works of a somewhat erotic character.

Where the female is excessively fat, attempts might be made to add to the energy of the entire system, and to reanimate the action of the womb, by prescribing the internal use of mint, balm, garden rocket, saffron, aloes or nutmeg. These substances might also be used in enemata and in injections, which should also be recommended, as well as frictions of the loins, thighs and hypogaster with a hot flannel, impregnated with oil of petroleum, of saffron, or rue, or with vapour of amber, benzoin, or the volatile and spirituous substances. In women of too strong a constitution, recourse should be had to venesection, to tepid baths, to a half-diet, to milky acidulous and cooling drinks. Let us further say, that where the sterility may be supposed to arise from any excess of venereal indulgence, the parties ought to be separated for some time, or at least learn to have some moderation as to their sensual gratifications; after this let trial be made of tonics, sedatives and an analeptic regimen. It is unnecessary to say that cantharides or phosphorus should never be employed for these ends, but with the greatest reserve and the most scrupulous attention.

[Although not absolutely apposite to the subject, I cannot refrain from contrasting with the cases of special impotence and sterility, the remarkable productiveness of the human female after the great epidemic of the 14th century, called the Black Death. Dr. J. F. C. Hecker, in his work, "*The Epidemics of the Middle ages*," states, at page 31, that "After the cessation of the Black Plague, a greater fecundity in women was everywhere remarkable—a grand phenomenon, which, from its occurrence after every destructive pestilence, proves to conviction, if any occurrence can do so, the prevalence of a higher power in the direction of general organic life. Marriages were, almost without exception, prolific; and double and treble births were more frequent than at other times," &c. Dr. Hecker computes the mortality in Europe during the three years of the prevalence of the Black Death at 25,000,000 souls.

It seems to me that M. Colombat might have spared himself much of the foregoing articles upon the nature, causes and treatment of sterility, had he been fully acquainted with the novel doctrines on the ovum of the mammalia to which we have so often referred. Doubtless the *tra-*

*vail ovarique* fails in many women to produce the perfect ovule, although the development of the Graafian cell may go on, and, indeed, in some abnormal condition of the vesicle, as, for example, where it becomes twice or thrice as large as it ought to be, we might well suppose the elements of a menstruating power even greater than the healthful one; yet without developing a healthful ovule, germinal vesicle, or germinal macula. M. Pouchet, as has been seen at p. 482, is of opinion that the precise time wherein the act of fecundation is impossible, can be correctly indicated, while it is most probable that the period during which it is most practicable cannot be so well determined, since observation has not, as yet, settled the question as to the date of the rupture and discharge of the Graafian vesicle; as, whether antecedent to, in the midst of, or at the close of the menstrual phenomena. This, perhaps, can never be settled; and it is even probable that it is a variable, not a constant period.—M.]

## OF FALSE PREGNANCY.

The term *false pregnancy* comprehends a variety of affections that may simulate true pregnancy; some of them are always products of conception, and others are independent thereof. Among the former, we include *moles;* and, among the latter, we class the cases of hydrometra, of tympanitis, of hydatids of the womb, polypous, scirrhous, and cancerous tumours of that organ, collections of pus, blood, mesenteric or epiploic tumours, ascites, and scirrhus and dropsy of the ovarium.

Inasmuch as we have, in separate chapters, traced the history of the disorders that may be confounded with true pregnancy, we shall here be content succinctly to recapitulate the common considerations they present in their resemblance to normal pregnancy, to which they for the most part conform only in regard to the distension of the abdomen. It is true that in many of the instances these affections are coincident with suppression of the catamenia, a suppression which they may either cause, or follow; and it is also unquestionable that the suppression of this evacuation may give rise to other symptoms of pregnancy, such as enlargement of the breasts, nausea, vomiting, &c. Under these circumstances to commit an error is so very easy, that there are, perhaps, few medical men who have not witnessed, or even been subject to such mistakes. Désormeaux relates a case of a gross mistake, but of an inverse sort.

"A female living in the Faubourg St. Marceau was pregnant; certain impudent quacks asserted that she laboured under dropsy, and plunged a trocar into her abdomen, which killed her." The same author adds that he was called in consultation to decide as to the necessity of the Cæsarian operation for a woman who was supposed to have been several days in labour. She was labouring under an attack of intense peritonitis, of which she recovered, but she also had a scirrhous ovarium, of which she died some months later at the *Maison Royale de Santé.*

Roussel speaks of a woman in whom all the signs of pregnancy were found, but who, after the lapse of nine months, was delivered of them by a flooding. Mauriceau recites the case of a woman, fifty years of age, who believed herself pregnant, and engaged a midwife to stay in the house with her, and had the baby-clothes ready—but whose supposed pregnancy ended in a discharge of gas. Schmidt, Lamotte, M. Lefevre and many other persons tell us of similar cases. In fine, we refer the reader as to the diagnosis of the diverse affections that simulate real pregnancy, to our remarks in the chapters on physometra, hydrometra, hydatids, calculous concretions, uterine polypus, and on inflammation, dropsy, cancer and other degenerations of the ovarium.

The collection of symptoms known as *nervous pregnancy*, or *hysterical pregnancy*, which generally depends upon some spasmodical affection of the abdominal viscera, and which sometimes depends upon a chronic inflammation of those organs, is the form of false pregnancy most commonly met with, and moreover, the one that most generally gives rise to mistakes. For the most part it is met with among women approaching the change of life; in women affected with accidental suppression of the catamenia, who are nervous, irritable, hysterical, and particularly in the unmarried; further, in widows, who imagine themselves pregnant by a second husband; and in those who, having lost their first children, are extremely anxious to have them replaced.

With all these women, the abdomen swells; the menses cease to appear; nausea, disgust, enlargement of the breasts, and in many of the cases, all the rational signs of pregnancy supervene, so as indeed to impose upon the most skilful accoucheur, as happened in fact to Professor A. Dubois.

Under such circumstances, as well as the others that we have described, an exact appreciation of the positive signs of real pregnancy, and of the signs peculiar to each of the affections that might simulate it, ought to enlighten the physician, and place him in a position to decide as to what kind of lesion the case submitted for his opinion belongs. Furthermore, the diagnosis is of still greater difficulty where pregnancy is complicated with some one of the affections above pointed out; yet, from the fifth month onwards, the careful exploration of the womb serves to remove every doubt, in whatsoever case of false pregnancy, and to dispel every illusion upon the subject. In fine, the treatment of these various affections is in substance pretty much the same as the treatment of hysteria, to which we now refer the reader.

[M. Colombat thinks that from the fifth month forward the difficulty of diagnosis is greatly lessened, if not removed. I have to say that in cases of ascites and anasarca, the greatest embarrassment is likely to befall any man who may be called upon to decide the question of pregnancy, provided there be a dead fœtus in utero, floating in an excessive quantity of liquor amnii, while the womb itself is drowned in a vast ascitic effusion. The utmost precaution should be used by the medical practitioner, in making the diag-

nosis. He ought not to omit either the Touch, the abdominal taxis, or the stethoscopic exploration, nor should he leave out of view the commemorative and the rational signs of pregnancy connected with the particular case, while contemplating the sensible signs of the supposed pregnancy. Still, under circumstances like those above proposed, the difficulty is sometimes extreme. For my own part, I have but one rule of action; and that is, to admit very candidly my inability to decide, where I have not the clear and undeniable signs of a pregnant womb. Dr. Evory Kennedy, in his valuable work on pregnancy and auscultation, informs us that the stethoscope and other means of auscultation sometimes reveal the heart's action of the fœtus before the expiration of the fourth month; yet, when he has detected the sounds, they have been "so delicate and feeble as to render it necessary for the individual exploring, to have an ear well trained to stethoscopic sounds. In general, therefore, we may look upon it, that this phenomenon is not to be detected until after the period of quickening, when the uterus has risen out of the pelvis, and allows of one coming more immediately in contact with that part of it where the embryo is contained."—p. 101. I may add, that Dr. Kennedy's book is worthy of the perusal of every medical or obstetrical practitioner.—M.]

## OF MOLES, OR DEPRAVED CONCEPTION.

There are other kinds of false pregnancy which arise from a conception natural at the commencement, but the product of which has become changed as to its nature, under the influence of some morbific cause, and has still further changed after the death of the embryo.

The productions that result from these depraved conceptions, have received the denomination of moles, which are distinguished as of three kinds, and, of course, constitute three kinds of false pregnancy, to wit, 1, False germ or embryonal mole; 2, Fleshy mole; 3, Hydatid mole.

By the word mole, from the Latin *mola*, and the Greek μολη, or from *moles*, mass, is meant an organized fleshy insensible body, generally softish, sometimes hardish, of variable and indeterminate shape, which, after having begun and having been developed within the womb is, instead of a fœtus, sooner or later expelled from the cavity of the organ.

Moles have been confounded with polypus and with the various other tumours that are produced within the womb; yet there is one very important difference that distinguishes them, which is that moles are always the results of depraved conception, and products of generation disturbed in its formation and altered in its composition; while other tumours are parasitic bodies, developed spontaneously, and without any clearly appreciable causes.

Fernel, the physician of Henry II., was the first author to reproduce the idea that a genital act is necessary for the formation of a mole. *Nusquam visa est mulier molam sine mare concepisse.* This opinion was, at a later date, maintained by Mauriceau, who

rested the opinion upon a number of facts, which have never since been successfully controverted. Hippocrates, Galen, Aristotle, Moschion, Mercurialis and Roderic à Castro, supposed the mole to consist in a mass of flesh developed in the womb in consequence of an imperfect conception; yet Hippocrates speaks of certain bodies that grow within the womb, in strong, robust young girls; and Galen avers that in the same way as the hen may lay her eggs without the tread of the cock, so some women may produce moles without the intervention of the husband. Lastly, Mercurialis (*De morb. mulierum*, lib. i. cap. 4. p. 24. 1597,) pretends that a voluptuous dream has often sufficed to give rise to a mole in the womb of a young girl. Weinrich, of Breslau, thought that a mole might be formed in the uterus of a virgin, or even of a castrated woman, (*Comment. de monstris*, 1595.) In fine, Stalpaart Van der Wiel described a virginal mole, (*Obs. rariores medicinal.*, 1687,) and Hanneman published a memoir on the moles of young girls, (*Ovum Harv. gener.* 1678); this opinion is partly admitted by M. Velpeau, who recognizes the possibility of the mole in a virgin, but regards them as very rare.

With a view to reconcile all these different opinions, Lamzeweerde (*Hist. Nat. Molarum Uteri*, 1686,) distinguished them into moles of generation and moles of nutrition. The same author victoriously opposed all the ridiculous prejudices which prevailed in his day on the subject of moles, and which some medical men promoted by their marvellous histories of vital moles, and fantastic animals, living or dead, such as screech-owls, frogs, lizards, bats, dragons, apes, &c., brought into the world by women. Some authors also have admitted the existence of true and false moles; that is to say, they supposed some to be the result of abortive conception, while others had formed spontaneously and without any appreciable cause; among the latter they classed the wind-mole, the water-mole and the humoral mole, which were neither more nor less than the disorder we have described under the heads of hydrometra and physometra or uterine tympanitis.

Whatever may be the supposed value of these opinions, it is at present generally admitted by the pathologists and accoucheurs, that a mole is the result of a conception that has become depraved from some cause, and which is called a false germ, or embryonal mole, where the product does not remain more than two or three months in the womb, and besides, exhibits the usual envelopes of the ovum, which, though always thicker and more dense than the healthy ones, are yet filled either with a transparent or a bloody fluid, amid which are discovered the early lineaments of the embryo. False germs, then, differ from fleshy moles, only as to the longer sojourn of the latter in the womb, and as the membranes are both thicker and more consistent.

Fleshy moles are sometimes hollow and sometimes compact or solid. In the former the size varies from that of a goose-egg to that of a fœtal head; the cavity is polished and full of water, while the external surface is fungous, uneven, rounded, and sometimes lobular and angular. In the latter case, which is where the mole is solid, it

consists of a more irregular and larger mass; they are sometimes met with of enormous dimensions, but for the most part do not exceed the size of the double-fists. Their texture is composed either of a filamentous and spongy tissue, like that of the placenta, or of a fleshy parenchyme mixed up with clots of fibrinous blood, amid which are often found incorporated the remains of embryos, bones, and even whole limbs.

The last circumstance proves that a twin pregnancy may coincide with a fleshy-mole; but it is very uncommon for both the products to be affected at the same time, and for two moles to be simultaneously formed within the womb. On the contrary, a mole has often been found to co-exist with the natural product, and at the conclusion of the term of gestation, the exclusion of the mole has immediately followed that of the living fœtus, or at least it has come away in the course of a few days after the birth of the child. In certain cases, such a mole produces abortion, or indeed, which is still more rarely observed, it is expelled at some period of the pregnancy earlier or later, and the pregnancy then goes on through all its stages, the woman reaching the full term and giving birth to a perfect child. It is proper to say further, that moles have been known to remain for years within the womb; Pierre Rideux, grandson to the Regent of the Montpellier Faculty, cites in the *Mém. de l'Acad des Sci. for* 1735, the case of a woman who discharged a very large mole at the age of seventy-seven years.

It remains for us to speak of the third sort of moles, that is to say, the hydatid mole, which consists in a degeneration of the placenta, and, like the fleshy mole and the false germ, is a product of conception. This diseased affection is nothing more than the development within the placenta, of a certain number, greater or less, of cysts,—either separate or united together like the berries of a bunch of grapes. This kind of mole, which is very common, in general attains a size greater than the other sorts, and sometimes sojourns for a great while in the uterus, whence it escapes either in mass or in broken masses. For fuller particulars we refer to our remarks on degeneration of the placental tissue at p. 378 of this volume.

The causes of moles, of whatsoever species, are always very obscure; but it is ordinarily supposed they may be produced by any cause capable of disturbing the development of the new being. Among these causes may be classed a sudden fright or a lively emotion experienced during the genital act, or in any of the early days of the embryonal life. A bad quality of the semen, and the usus coitûs during the catamenial excretion, have also, by some, been looked upon as capable of giving rise to this depravation of the product of generation. It is unnecessary to say that all such hypotheses are wholly without foundation.

The diagnosis of the different species of moles, is extremely difficult, especially in their earlier stages in the uterus, because the symptoms characterizing them at that period, are equally characteristic of true pregnancy. In fact, as happens in real pregnancy, a molar conception is announced by suppression of the menses, swelling of the

breasts, tumefaction of the belly, disgusts, nausea and disorder of most of the functions.

The obscurity becomes much less, when the mole has remained for several months within the womb. Under such circumstances, the size of the abdomen is greater than it is at the corresponding stage of real pregnancy; it is generally more painful, harder, and more equably distended. There is no ballottement, and no spontaneous motion of a fœtus. The weight of the womb appears to be greater and more fatiguing than when it contains a fœtus, and the woman, who suffers from pain in the loins, from dysuria and from lassitude, more than she does in an ordinary pregnancy, also feels something like a ball falling about within her as she turns from side to side. To all the above symptoms should be added the shrinking of the breasts, which were at first enlarged; the secretion of a serous fluid in place of milk; and lastly, frequent, irregular attacks of uterine hæmorrhage. Generally speaking, after the first five months of gestation, where the signs of true pregnancy are not to be found, and where the local uneasiness, as well as the floodings, continue to increase, we are authorized to suppose the symptoms derivable from the presence of a foreign body within the womb.

Previously to concluding what we had to say upon the diagnosis of moles, we shall offer a few remarks upon the distinguishing characteristics of the fleshy and hydatid mole.

In the first place, the hydatid mole is much more rarely seen to coexist with a normal embryo than the fleshy mole, and a hydatid pregnancy is almost always longer than one from a fleshy mole. The belly is also larger, although the womb is in common not so heavy or hard as when occupied with a solid and compact fleshy substance. Lastly, the hydatid is more frequently expelled in fragments or shreds, and at different times, and the pains are stronger and more lasting than in the fleshy mole, while there is also greater and consequently more dangerous flooding.

Where the mole has attained its maturity, which is generally the case from the fourth to the seventh month, the patient has pains like those of real labour; the womb contracts, its orifice becomes dilated, and the mass is expelled. The breasts then fill with milk, the lochia follows in course, and all the other secondary symptoms take place as in a common lying-in.

The *treatment* of moles was formerly very complicated; thus, some of the authors, under an impression that every thing ought to be done in order to terminate its sojourn in the womb, were in the habit of prescribing a host of remedies designed to effect its detachment and discharge. In order to come at this end, they practised bleeding in the foot and arm, emetics, sternutatories and drastic cathartics, baths, emmenagogues, fumigations and stimulating enemata. They provoked the uterine contraction by means of pessaries containing savine powder, rue, hellebore, or aristolochia, which they also administered internally. In fine, in order to expedite the escape of the mole, they advised the patient to leap, to walk about, and to go up and down stairs.

The employment of such measures as the above is so much the more dangerous for the female, as the signs of a mole are not invariably sufficiently marked to remove all risk of mistaking a true pregnancy for it.

The treatment, then, for the most part, requires nothing particular; we should wait until nature expels the foreign body, and then we extend the same care, and make use of the same precautions as in an ordinary accouchement. Nevertheless, if in any case the os uteri were to be sufficiently open to enable us to touch the mole, or see it by using a speculum, it would perhaps be useful to arouse the contractions of the organ by administering doses of secale cornutum. In case a profuse flooding should come on, or be frequently renewed, we ought to act as in cases of abortion, or of placenta previa; that is to say, provided the dilatation would not admit of the introduction of the hand or a proper instrument, we should apply the tampon; and should the mole appear at the os uteri, we might seize it with a pair of Levret's *pince a faux Jèrme*, or with our uterocep pincers, represented at fig. 38, p. 350. Where there is no urgency, the opening of the os uteri might be favoured, if possible, by applying some belladonna ointment, and could the fingers be introduced within the cervix, we ought to try to get hold of the mole and withdraw it in that way. In fine, in those very rare cases, where the tumour is too voluminous to be able to pass through the orifice of the womb, it might be exposed by means of the speculum, and then seizing it with a hook forceps, we should divide it into several distinct fragments.

For the most part, all the symptoms disappear when the mole has been extirpated or expelled; and beyond that, the treatment is the same as that appropriate for a lying-in woman.

## OF EXTRA-UTERINE PREGNANCY.

The development of a fœtus and its appendages outside of the womb, is called extra-uterine pregnancy, which is divided into tubal, ovarian, peritoneal and interstitial pregnancy, accordingly as the product of the conception is found in the tube, the ovary, the peritoneal sac, or in a cavity formed at the expense of the texture of the womb itself.

All the ancients were ignorant of these different species of pregnancy, the history of which does not go back beyond two hundred years; and, indeed, most of the writers of that period looked upon the first published cases of the kind as chimerical.

The commonest and most anciently understood form of extra-uterine gestation is the tubal pregnancy; for, according to Riolan, Professor of Anatomy in the reign of Louis XIII., a surgeon saw a case of the kind in 1590, though not much attention was paid to it at the time. The same author, who himself had an opportunity of seeing a case of the sort in the body of a washerwoman, in the service of Anne of Austria, says further that a surgeon, one of his cotemporaries, had met with another case, in the year 1640. But, soon after this period Regnier De Graaf, Duvernoy, Bussière, Bianchi, Louis

Léger de Gouey, Runge, Bruyer, of Leipzig, J. Clark, Wilson, Martin, Petit, Chaussier, and Messrs. Bry de Bouillon, Bonnie, Vallerand and a crowd of others, published cases of tubal pregnancy that could leave no doubt upon the subject.

After the numerous experiments that have been made to explain the mechanism of conception, and the almost positive knowledge now acquired as to that important question, it becomes easy for us to understand how the arrest may happen of an ovule in some point of one of the tubes, and so to comprehend the formation of a tubal pregnancy. It is also easy to conceive that if the germ may stop at any point of the tube, it is precisely in the fimbria that it will be most likely to stay, and that, after the lapse of some short time, it will be difficult to determine whether the pregnancy is tubal, ovarian, or abdominal, because the tumour will be seen to be confounded with the circumjacent tissues.

*Ovaric*, or *ovarian pregnancy*, is extremely rare, and, by some authors, is not admitted to exist; M. Velpeau, for example, who thinks that the published cases have not been sufficiently well described or studied incontestably to establish the existence of these kinds of pregnancy. Other persons have asserted their impossibility, on the ground that, at the moment of fecundation, the membrane of the ovary gives way, and that, besides, in the quite ancient cases that have been published, it was an easy matter to confound these cases with cases of peritoneal pregnancy, inasmuch as the science of morbid anatomy was not in that day so well understood as at present. Be this, however, as it may, the first authentic case mentioned in the annals of the science is one published in 1682, by St. Maurice, a physician in Perigord, in *Mangetus's Bibliotheca Anatomica*, t. i. p. 623. The second case was reported by Vieussens,* who tells us that Montanier, a physician at Lambesc, in Provence, being called to a woman who died suddenly, with violent pain in the abdomen, examined the body for the purpose of ascertaining the cause of so strange a death. He found a fœtus, of about two months, in the lower belly, surrounded with a quantity of blood, but without any lesion of the womb or Fallopian tubes; but he observed the right ovary to be very much enlarged and lacerated at its lower side, whence it was clear that the fœtus had escaped.

In the *Memoirs of the Academy of Sciences*,† Littre assures us that he found, in the left ovarian, a vesicle containing a fœtus about three lines and a half in length. He adds, that this fœtus was attached to the inner part of the membranes of the vesicle, where it was held by an umbilical cord, a third of a line thick and a line and a half in length.

Lastly, the fourth case is due to Varoquier, anatomical demonstrator at Lille, who communicated it to the Academy of Sciences in 1756. Upon opening the body of a girl, thirty years of age, who died with a fixed pain in the left iliac region, he found the ovary

* Verheyen's Anatomy. De structura, et usu uteri et placentæ.

† Mémoires de l'Académie des Sciences, annèe, 1701, p. 109.

on that side, of the size and shape of a hen's egg. Upon opening the tumour, about an ounce of a lymphatic fluid, resembling whey, escaped, in which was floating a fœtus, somewhat withered, but with its umbilical cord and placenta still entire. The placenta was attached to the top of the substance of the ovary, with which it was confounded. The fœtus was two inches long, from the top of the head to the knees. As some cases have been published, since those now above mentioned, it follows that very few practitioners of the present day entertain any doubts as to the fact that ovarian pregnancy has existed and may exist.

[It seems no longer deniable, that the spermatozoid may, on some occasions, actually reach the ovary. Both Bischoff and Martin Barry have discovered the animalculæ lying on the surface of the organ, where they could have been transported only through the Fallopian tube. Bischoff, in his *Entwickelung's Geschicte*, &c., p. 21, states that it was his good fortune to make the first discovery of the kind. *Diese beobachtung zumachen, ist mir endlich zuerst gegluckt.* The first occasion of seeing this phenomenon, was June 22, 1838. He exhibited the fact to many of his friends, and made a communication, relative to it, to a scientific congress, assembled at Fribourg in the fall of 1838; since which time, he has had other opportunities of witnessing the same occurrences. The proofs advanced by M. Colombat, and the clear and undeniable case by Dr. Granville, accompanied with a beautiful engraving, in the *Lond. Phil. Trans.*, 1820, suffice to set the question at rest. There ought, moreover, to be no reluctance to admit the fact of ovarian fecundation, for those who believe in the *ponte periodique* of the mammals. It is quite easy to suppose that an ovisac in the ovary may be opened in the steps of the *ponte*, without discharging the ovule which is retained by its *tunica granulosa* or retinacles. Such an ovule, being fecundated through the rent or aperture, afterwards closed by being hidden, in some change of place of the ovary, against an intestine or the anterior lining of the broad ligament—the fecundated ovule readily forms its mesenteric attachment there—and we have, in consequence, a case of ovarian gestation. The ovule, when detected in the tube, even long after the sexual conflict, is found surrounded by zoospersms. M. Bischoff represents them in several of the figures given in his elegant Atlas.—M.]

The third species of extra-uterine pregnancy is the *peritoneal* or *abdominal*, which is produced when the fecundated ovule falls into the abdomen, instead of entering the Fallopian tube. It is probable that this accident is not very uncommon, and that the reason why the abdominal pregnancy is not more frequent is, that the greater part of the germs which escape in this way, perish before forming their attachment upon the serous membrane destined to receive them.

One of the most authentic cases of pregnancy of this kind was published by Courtial, professor of medicine at Toulouse.* The

* Nouvelles Observ. sur les os. Observ. x.

fœtus of which he speaks, which was of nine months, was found in the left side of the abdomen, situated with the head downwards, and the feet above, connected by the umbilical cord with the placenta, which was itself attached to the omentum and stomach. It was ascertained, by examination, that the uterus, the ovary and the Fallopian tubes were free from any laceration, so that no doubt could be entertained as to the pregnancy being abdominal.

The case by Jouy, surgeon to the Hôtel-Dieu at Paris, and reported by Dionis,* is nearly similar to the preceding. The fœtus, as in that case, was of nine months; it was likewise in the left side of the abdomen, in a cavity filled with sanguineous fluid; its cord, to which it was still connected, was attached to the placenta, situated between the mesentery and colon; no rupture or cicatrix of the womb, tubes or ovary was discovered.

In 1748, two physicians of Soigny communicated to the Academy of Sciences† a nearly similar case. It concerned a fœtus which had been carried by the mother, in her abdomen, for thirty years. It was found in the right side of the abdomen, covered by its membranes, which were attached to the peritoneum and mesentery, outside of the uterus. The fœtus was well formed, provided with hair, and had two incisor teeth ready to protrude. Besides, as in the preceding cases, the womb, the tubes and the ovaries bore no traces of lesion.

Cases anterior to those we have just cited, have already been published; amongst others, by Egide Hertog‡ and Achilles Pirminius Gassarus,§ physician at Augsburg, and by Steph. Manialdus.‖ Other cases of abdominal pregnancy have also been inserted in different journals or general treatises upon medicine, by Abraham Cypriaan,¶ by Solingen,** by James Brodie Birbeck,†† by Copping,‡‡ by Ch. Delaunay,§§ and a number of others, whom it would take too long to cite.

Though frequently observed, the existence of abdominal pregnancies has been denied by some physicians, who pretend that the peritoneum is not sufficiently vascular to carry on the development of the ovum, and that supposed peritoneal pregnancies had no doubt been confounded with tubal pregnancies. We reply to these arguments, that the human ovum, provided with a simple epichorion, generally adheres to the peritoneum by numerous vascular filaments, constituting a kind of placenta formed of a collection of vessels united to a mass of spongy material, in every respect similar to that which characterizes the human placenta. We may add, that this species of placenta was found inserted upon the ovary and broad ligament, by Kelni and

* Anatomie de l'homme, c. vi. p. 223.
† Mém. de l'Acad. des Sciences, p. 108, année, 1748.
‡ Dodon. Exemp. Med. Observ., 1520, p. 321-328.
§ Gassarus died in 1577.
‖ Comment. in Hipp., in-8, 1619.
¶ Epist. ad Thomas Millington, 1700.
** Manuale Med. Oper., p. 234.
†† Philosoph. Transactions, t. i. p. 224.
‡‡ Leshe Auszuge, t. ii. p. 321.
§§ Nouveau Système sur la Génération, p. 270, 1726.

Lallemant; upon the mesentery and peritoneum, by Weinhard and Weinknecht; upon almost all the abdominal viscera, by Turnbull; upon the stomach, by Courtial; upon the colon, by Fern; in the iliac fossa, by Romieux; on the sacrum, by Baudelocque; on the front of the spinal column, by M. Arnault: and, finally, on the kidneys and intestines by M. Bricheteau. We remark further, that the difference between the organization of the peritoneum and that of the womb is no reason for supposing that the peritoneal serous membrane may not serve as point of attachment to the placenta. The ovum forms adhesions to all the viscera with which it is in contact; it is a part supplied with vital forces, and which unites itself with another part by a kind of action bearing some resemblance to the adhesive inflammation. Changes similar to those which occur in the uterus, after conception, take place; for, by the intervention of the placenta, a communication is established between its vessels and those of the neighbouring parts, which become sensibly dilated.

The fourth species of pregnancy, called, by M. Mayer, *interstitial*, has not been mentioned by the ancients. In this form, the fœtus is developed in the midst of the fibres of the uterus. Though it has been observed by Messrs. Schmidt, Albers, Hederich, Carus, Chit, Bellemain, Lartet, Dance and Moulin, Meniere and Dujardin, it has been carefully studied only by Messrs. Mayer and Meckel, and especially by M. Breschet, who collected all the authentic cases in an excellent memoir, which he published in the *Répertoire d'Anatomie et de Physiologie Pathologiques*, 1826, p. 1er. The mode of formation of interstitial pregnancy resting entirely upon hypothetical suppositions, is still quite unknown: wherefore we deem it right to pass over all the anatomical and physiological explanations of it which have been given. Lastly, according to some modern authors, there is a fifth kind of extra-uterine pregnancy, called *utero-tubal*, because, in this case, a portion of the ovum is developed in the uterine cavity, and a portion in the Fallopian tube. Some cases of this kind have been reported by Patuna, Hay, Herbin, Hoffmeister, Laugier and Moudot.

The *causes* that produce these different species of extra-uterine pregnancy, are very difficult to ascertain; nevertheless, though they rest upon hypotheses merely, which are therefore of no practical utility, either in regard to the prophylaxis or diagnosis, we shall bestow a few words upon them. It has been the custom to regard all deformities of the Fallopian tubes as capable of producing extra-uterine pregnancy; their obliteration, spasm, or faulty direction; any excess or diminution of their length; their anti-peristaltic movement, and all anomalies which they may present as to their situation or conformation. There have also been classed amongst the causes of this affection, thickening and anormal density of the investing tissue of the ovule and of the membranes of the ovary; too strong an adhesion of the germ, and its being situated too deeply or too near to the ligament of the ovary. Astruc thought that unmarried women, and especially those who pretend to be chaste, were more liable than others to pregnancies of this kind. Kruger, who is of the same opin-

ion, maintained that the ovule either remains in the ovary, is arrested in the Fallopian tube or falls into the peritoneum, because some vivid emotion, a sudden fright, or surprise, seizing a woman during the coïtus, or immediately after it, imparts a shock which reacts upon the sexual organs especially. A case by M. Lallemant and another by Baudelocque seem to confirm this idea of Astruc and Kruger. In fact, in one of these cases, the extra-uterine conception seems to have been produced at the moment when one of the women was seized with terror, at hearing the turning of the key which she had imprudently left in the lock, while she was in the arms of her lover; in the other case, the same accident seems to have occurred at the woman's hearing a sudden noise which caused her to fear being taken in *flagrante delicto*. Further, we ought to remark that, as nothing of the kind was observed in the other cases, these various explanations can only be regarded as more or less plausible hypotheses.

The *signs* of extra-uterine conceptions are, in the early months, very difficult to appreciate, since all the signs of true pregnancy are extremely doubtful during the early periods. Thus, the persistence of menstruation, the nausea, the mere frequent vomiting, the mere acute pains in the hypogastrium, can have but little value, since they are often absent and not unfrequently accompany true pregnancy. The same is true of the want of changes of the breasts, of the non-secretion of milk; of the irregular shape of the abdomen; of its more rapid development, especially on one side; of the movements of the fœtus at an earlier date, and felt, too, through parietes which seem to be thinner than common, and of the small size of the uterus; lastly, several other signs of extra-uterine pregnancy, which are often absent in this condition, and which are met with still more frequently in natural pregnancy. In general, there is scarcely a doubt as to the existence of an anormal conception, when the abdominal tumour has risen earlier than usual, above the superior strait, and when it is found to be in one of the iliac fossæ; when the tumour seems irregular and varicose; when it is the seat of pulsations, and when it is easy to detect the movements of the fœtus through the parietes of the abdomen, while we ascertain by the Touch, that the weight and volume of the womb are very slightly increased, and that the neck of the organ is but little shortened, though it has changed its position, direction, density, and even form. Moreover, there is one constant sign, which is, that when the woman has already borne children, she recognizes, by the symptoms, that the pregnancy is different from the preceding ones. In some cases, a blunt probe, carefully passed into the cervix uteri, which is generally considerably open, or even the finger introduced into the same cavity, would indicate whether the size of the womb was enlarged. The Touch by the rectum would also furnish valuable information, as also the application of the stethoscope over the tumour, which would enable us to hear the placental and fœtal circulation.

As to the symptoms which may serve to point out the nature of the extra-uterine pregnancy, they are more uncertain even than those we

have just described. Nevertheless, when the fœtus is developed in the ovary, the uterus is more movable than when it is seated in the Fallopian tube. When the tumour is large, whether situated in the ovary, Fallopian tube, or peritoneum, the uterus is equally immovable, and suffers the same displacements. In peritoneal pregnancy, however, the tumour is more elevated, more movable, and is generally fixed in one of the hypogastric regions. Lastly, we add that the diagnosis becomes still more difficult when the fœtus is dead, and especially when it has remained a long time in the abdominal cavity, of which we shall relate several examples.

Extra-uterine pregnancy commonly terminates before the fifth month; Turnbull, Baudelocque, Arnault, Novara, Delisle and Patuna, however, have known it to go nearly to the term of gestation. Canonico has seen it at the first month, Treviranus at six weeks, Verheyen, Baudelocque and Vallerand, at the second month; Breschet and Mayor at the third, Blizard, James, Ramsbotham and Cruveilhier at the fourth, Barbaut from the fifth to the sixth, and, lastly, Starke at the seventh. In all the cases, the patients have been carried off by hæmorrhage, either suddenly, or after a few days of suffering. Accidents of this nature are characterized by acute pain, rapid debility, paleness and syncope. At the examination after death, the fœtus is found in the abdomen, amidst clots and fluid blood, and with the placenta in the middle of the broken cyst. It should be remarked that the women generally experience pains like those of labour, and accompanied with all its symptoms, such as the dilatation of the cervix uteri, discharge of sanguineous glairy mucus, and very evident contractions even of the womb and tumour.

The rupture of the cyst may be regarded as a sort of abortion, and the escape of the fœtus from the cavity in which it is contained being the inevitable consequence, the death of the mother and child is almost certain to follow, because the latter can be extracted only through an artificial opening: the interstitial pregnancy alone sometimes allows of the removal of the fœtus by the natural passages.

The death of the fœtus takes place most frequently in the early months, and when this occurs, the health of the female has been known to be re-established, and to continue for a considerable length of time, although bearing in her abdomen the product of conception, during a longer or shorter period of years. The annals of science contain a great many cases of this kind. Abraham Cypriaan* speaks of a fœtus which had remained twenty-nine months in the abdominal cavity. Runget cites another case in which the fœtus had remained eleven years in the cavity of the Fallopian tube. Spœring,‡ a Swedish physician, makes mention of a female who retained her child for thirteen years in the abdomen, and Thomas Bell§ cites a case of twins which were carried for twenty-one months in

* Epist. ad Thomas. Lug. 1700.
† Hamburgher, etc., t. ix. cap. 1, pp. 1—18.
‡ Abhandlungen, etc., 1744, p. 91.
§ Edinb. Méd. Comment., t. ii. p. 71.

the abdomen of the mother. M. Mojon* found in the pelvic excavation of a female seventy-eight years of age, who died of decrepitude, and who was the mother of three children, a tumour depending from the uterus, and adherent to the vagina and bladder; it was composed of a cartilaginous cyst containing a fœtus completely ossified, which seemed to have lived to the third month. Lastly, M. Blauche† lately received into his wards a woman of seventy years of age, who had a large tumour in her left iliac fossa, which dated from more than thirty years back. For some time before she came in, the pain was very severe, the abdomen tense and painful to the touch. The patient had had one child, when at the age of twenty-seven years; the tumour made its appearance at forty years of age, and the menses ceased at fifty. She was supposed to have an ovarian cyst, but having died on the 25th of September, 1841, it was found at the autopsy that the tumour was composed of the remains of a fœtus. Almost all the bones were still united by ligaments, and the skeleton was rolled up; the pelvis and inferior extremities occupied the posterior part of the tumour, the occiput the anterior, while the head formed the principal portion of the mass.

In all the cases we have now cited, the fœtuses had undergone different alterations; in general they become shriveled, dried and mummified, and the cyst in which they are contained thickens, becomes fibrous and fibro-cartilaginous, and may remain in the abdomen with the rest of the product of conception for a long time without endangering the life of the woman. Sometimes, however, the fœtus becomes covered with a sort of incrustation and with a substance like plaster, and this it is that caused fœtuses of this kind to be formerly designated by the name of *lithopedia* or *petrified fœtuses.* Such was that at Sens in 1582, or *lithopedium Senonense,* which had been carried by its mother for 28 years; that of *Pont-à-Mousson,* in 1659, which remained for 30 years in the body of the female who had conceived it; that of Dôle in 1661, which remained for sixteen years in the abdominal cavity where it had been developed, and for the account of which we are indebted to François Bouchard, professor of medicine at Dôle; lastly, that at Toulouse, in 1678, which had remained for twenty-five years in the abdomen of its mother, and which is described in a letter by F. Bayle, published in 1678.

In other cases, the cyst is converted into a true purulent abscess: the fœtus is decomposed, and putrefied, the sac forms adhesions with the surrounding parts, and opens into the bladder, cæcum, colon, small intestine, rectum or through the abdominal parietes or perineum. When this happens, dangerous symptoms almost always follow, and an inflammation which, extending to the neighbouring organs, gives rise to violent fever, which is more or less rapidly followed by the death of the patient. It sometimes happens that the female falls into a hectic condition, in consequence of abundant suppuration, while in other cases the fœtus is expelled in portions, the

* Diction. des Sciences Médic., t. xxvii. p. 42.
† Supplément à la Gazette des hôpitaux, 16 Juin, 1842.

cyst empties itself little by little, the suppuration gradually ceases, and the wound cicatrizes, or at least diminishes to a fistulous ulcer, less dangerous than inconvenient. Be it as it may, *extra-uterine* pregnancy is always extremely dangerous, both for the mother and child, and its most natural termination is the rupture of the cyst and the death of the child.

The *treatment* and conduct to be pursued in cases of extra-uterine pregnancy, present no positive rules, because of the impossibility of detecting them with certainty in the early months, and from the dangers incurred from the different means that might be employed. In extra-uterine pregnancies just commencing, and as to whose existence there is considerable uncertainty, the employment of any active or dangerous means should be rigidly interdicted; we should confine ourselves to treating the symptoms and to relieving the abdominal pain by means of strict diet, by a demulcent regimen, by baths, by enemata, and by emollient poultices and fomentations. It is improper, generally, to do any thing before the infant is *viable*, that is to say, before the seventh month of gestation, especially when the pregnancy passes through its stages without producing dangerous symptoms.

But when the motions of the child have become sensible both to the surgeon and the mother; when the form of the fœtus can be distinguished through the walls of the abdomen; when by auscultation and the touch, it has been almost positively ascertained that the tumour is formed by a fœtus, ought we to interfere, that is to say, perform gastrotomy, or should we wait for the spontaneous rupture of the cyst? In the last case, the uterine hæmorrhage and consecutive inflammation expose the woman to the greatest dangers. The only remedies we can oppose to these accidents are diet and absolute rest, refrigerants to the abdomen, sedative and cold drinks, and some other means which are of but slight avail. As to the inflammation, must we not fear increasing its intensity very much by operating in such a case and by incising the walls of the abdomen to extract the fœtus. It is difficult to know what to advise under such circumstances, but we believe that the operation ought not to be resorted to until after the symptoms of internal hæmorrhage have disappeared; it would be still more prudent, perhaps, to wait until the cyst and other foreign bodies, naturally carried towards the lowest part of the abdomen, should have contracted inflammatory adhesions, so that the seat of the disease, being better circumscribed, it might the more readily be uncovered by an incision, which would also cause the woman to be exposed to less risk.

Nevertheless, if the pregnancy, having nearly reached its term, were accompanied by very severe pains, and especially if the rupture of the cyst had taken place or were about to occur, and if, moreover, it were certain that the fœtus was still alive, it would become necessary to perform gastrotomy, which, notwithstanding the great dangers by which it is attended, does not augment those which the mother runs when left to herself, while it offers some chance of safety to the child. With the operation, the death of both is but too probable, and with-

out it nearly inevitable. Désormeaux and M. Velpeau think, with good reason, that gastrotomy would offer a much better chance of success, were it not deferred until the symptoms of peritonitis, itself a fatal disease, become developed. M. Velpeau adds, that by resorting to it earlier, the operation offers the greater chance of success in proportion as the pregnancy is less advanced, and that in this condition, the probability of the life of the child is too slight to be considered and to be placed against that of the mother. The authors who are in favour of waiting, and who think we should leave to nature the care of relieving herself, cite in support of their opinion, the not unfrequent examples of fœtuses having remained for a long period in the abdominal cavity, and even where their presence has given rise to inflammation, they bring not less numerous cases of women in whom the pus has escaped exteriorly, carrying with it the remains of the fœtus. Gastrotomy has been objected to, moreover, on account of the danger of the operation, which requires a large opening in the abdomen, and especially on account of the inevitable hæmorrhage and escape of the waters which result from it. Those who are of a contrary opinion, and who approve of the operation, say that if not performed, the child is surely sacrificed, and the mother exposed to the greatest danger; that gastrotomy may save the former, while placing the female in a more favourable position than when left to herself; and lastly, that when the cyst is opened by an incision, the effusion is to be feared less than when the rupture occurs spontaneously.

However it may be in regard to the different opinions we have just mentioned, we believe that the operation ought to be performed, even after the rupture of the cyst, and that in general we ought not to wait until the symptoms of peritonitis shall have declared themselves, because in that case we are almost sure to see the mother and child perish, when, by operating earlier, we might, perhaps, have saved both.

## OF GASTROTOMY.

Gastrotomy, which is not the Cæsarian operation, properly so called, since the uterus is not laid open, consists in incising the integuments of the abdomen to an extent sufficient to allow of the extraction, through the opening, of a living or dead child. The place of choice is to be determined by the situation of the tumour, observing the precautions, however, rendered necessary by the presence of vessels. The incision is made by cutting layer after layer, first the skin, the muscles, the aponeuroses and peritoneum, and then the cyst which contains the fœtus. The extraction of the fœtus is to be made by seizing it by the feet. The waters and blood which may have escaped into the peritoneum must be removed as far as possible, and the placenta then taken away, particularly if it be separated. A portion of the wound is to be united by means of the quill-suture, in such a way as to leave an opening at the lower angle sufficient for the discharge of the pus and blood, and even for the escape of the

placenta, if it has been impossible to extract it. After the operation is concluded, a suitable position should be given to the woman; the wound is to be dressed with a piece of fine linen, having portions of charpie and long compresses placed over it, the whole to be kept in place by means of a moderately tight bandage around the body. The subsequent treatment consists in preventing as much as possible the inflammation which follows this dangerous operation by the use of general and local bleedings, by emollient applications, by mucilaginous and sedative drinks, by strict diet, and lastly, by promoting the discharges by means of frequent injections. If fortunate enough to save the child, the female should be requested to suckle it, in order to produce a determination towards the breasts, which is a powerful means of derivation.

If the head of the foetus should have become engaged in the excavation of the pelvis, so as to make a distinct projection and seem to be nearly bare, or covered at least with so few integuments as to allow us to distinguish the sutures and fontanelles, the vagina ought to be incised at that point, and the child extracted through the passage. This operation, which was performed by Colomb, of Lyons, at the fifth month of pregnancy, and which terminated in the death of the patient, is less dangerous than gastrotomy, because the cyst is opened without uncovering the intestines, and without fear, therefore, of effusion; besides, the dependent position of the wound always allows of a free escape of the liquid matters. To add a few more words in favour of gastrotomy, we will remark, that the operation has been performed with success in cases in which the fœtuses were dead, by Abraham Cypriaan (*loc. cit.*), by Solingen (*loc. cit.*), by Thomas Bell (*loc. cit.*), by Breyer (*loc. cit.*), by Weinhardt (*loc. cit.*), and by some others. We shall conclude by saying that as to extra-uterine pregnancies in which the presence of the cyst has brought on inflammation or suppuration, we should rest content with combating the accidents that may occur; with treating symptoms; laying open deposits of pus; and enlarging the orifices of those which have opened spontaneously; we must assist the escape of the portions of soft parts or of the osseous fragments which may present themselves at the opening, or have formed themselves a passage in the vagina, rectum or bladder, an instance of which is related by Josephi. Lastly, the retention of pus or decomposed matters must be prevented, by means of baths, injections, enemata, by a rigid diet or an analeptic regimen, according to circumstances.

If we have to do with a case of stationary extra-uterine pregnancy, without complications, which can occur only after the death of the fœtus, any attempt can but aggravate the position of the patient, and endanger her life, which may sometimes be otherwise prolonged through many years.

## OF DISEASES CONNECTED WITH PREGNANCY.

The diseases connected with pregnancy are either seated in the gestative organ or depend upon the influence of that organ on the

different functions of the organism; that is to say, they are either idiopathic or symptomatic.

Amongst the former we rank retroversion, anteversion, obliquities, prolapsus, hernia, immobility, wounds, hæmorrhages and abortions. As we have already spoken of all these disorders while treating of the pathological history of the genital organs of the female, we refer our readers to the chapters which are devoted to them, in order to take up the subject of abortion, of which we have not yet treated.

## OF ABORTION OR MISCARRIAGE.

By abortion, ought to be understood the expulsion of the fœtus from the mother's organs before it has attained the degree of development necessary to render it *viable*. What distinguishes abortion from premature labour is, that in the latter, the fœtus, though born before term, has acquired an organization sufficiently perfect to enable it to live when severed from its mother.

According to Madame Lachapelle, abortion is more frequent at six, at five, and at three months, than at any other period of pregnancy.

Désormeaux, agreeing in that respect with the observation and opinion of almost all authors, thinks, on the contrary, that the accident is the more common as the pregnancy is less advanced. Morgagni has observed that a larger proportion of aborted embryos were male than female, and, in this opinion, coincides with most of the authors who have written upon the subject.

The causes of abortion are divided into efficient and determining. The efficient causes are nothing more than the contractions of the uterus and the muscular efforts of the parietes of the abdomen; the determining causes ought to be divided into predisposing and exciting. In some women the former causes act with so much force that abortion occurs spontaneously, without appreciable exciting causes.

Women most liable to abortion are those of a nervous, hysterical or irritable constitution; those who have abundant or irregular menses, or who are affected with leucorrhœa, syphilis, scurvy, rickets, dropsy, cancer or organic disease of the womb; women who have too much embonpoint, who are lame, in whom the pelvis is badly formed, in whom the womb is too yielding or not sufficiently so, or who have become pregnant too early in life; and, lastly, those having improper or insufficient nourishment, are also more exposed than others to abortions: the same is true of those who have an hereditary disposition to, or who have already had several miscarriages, and, to conclude, those who compress the trunk too violently with corsets, or who make use of very tight clothing.

Amongst the predisposing causes of abortion should be ranged also, residence in marshy districts of country, and certain constitutions of the atmosphere which are mentioned by Hippocrates, and which have rendered abortions really epidemic at certain periods;

Grown-Hann speaks of an epidemic of this kind which occurred in the year 1685; Berthold and Beherens observed a similar one in 1695, and A. Gensélius another in 1712, and lastly, Stoll has described an epidemic of abortions which prevailed at Vienna in 1778 and 1779. We observed, likewise, that the cholera proved a frequent cause of abortion in Paris in 1832; we ought, however, to remark that we took care during that period of two pregnant women attacked with cholera, who were several times bled at the commencement of the disease, and who gave birth, in due time, to strong and healthy children.

To the predisposing causes just mentioned must be added those which are connected with the fœtus and its appendages; for example, abortion may be a consequence of debility, of disease, or of monstrosity of the fœtus; it may also depend on slight adhesions of the placenta to the internal surface of the uterus, on placenta prævia, on scirrhous, hydatid, varicose or aneurismal degeneration of that organ; on want of proportion between it and the fœtus, or atrophy of its tissue, on too short or too long a cord, and, finally, on any of the diseases that might prevent the proper development of the embryo or fœtus.

[In most of the cases of abortion that I have seen, the embryo had been long dead; whence I conclude that in a majority of the cases of the accident, the cause of the abortion was to be found in the death of the embryo.—M.]

Although the predisposing causes just pointed out by us may in most of the cases determine by their single action the expulsion of the product of conception, constituting *spontaneous abortion*, it is customary to attribute the accident almost always to particular circumstances, which in general pass for the principal and exciting causes. Amongst these, some of which are insignificant, are yawning, the act of having a dejection, of voiding urine, and of coughing; different impressions, as joy, sorrow, anger, disappointment; that produced by a strong odour, by a candle just extinguished, by coïtus, and by a number of other circumstances which act more powerfully; such, for example, as the violent movements and succussions which occur in dancing, in riding in a carriage or on horseback, in running, leaping, crying, coughing, sneezing, vomiting, and, to conclude, all sudden movements of the body, and falls or blows upon the abdomen, buttocks or loins.

To the *exciting causes* just mentioned, we must also add all acute diseases, such as fevers and inflammations, especially those of the womb; diarrhœa, dysentery, colic, constipation, strangury, convulsions and attacks of hysteria and epilepsy.

Amongst the exciting causes of abortion, are to be ranged, moreover, the use of baths, especially hip and foot-baths, emetics, drastic purgatives, particularly those of which aloes forms the basis; emmenagogues, such as rue, savine and saffron, etc.; blood-letting, especially from the foot; and, lastly, the employment of mechanical means, of acupuncture and certain manœuvres acting directly upon the ovum,

which have been recommended in cases of deformity of the pelvis, but which, unfortunately, are but too often resorted to by infamous people.

In general, when there is no disposition to abortion, the greater part of the abortive remedies and occasional causes we have just cited fail to produce the expected result and do not prevent the pregnancy from passing through all its periods. Thus writers are filled with cases which prove the inefficacy of baths, pediluvia, bleeding from the foot and general bleeding. Mauriceau relates the cases of two pregnant women, one of whom was bled ten times without aborting: the other also reached the full term of pregnancy, notwithstanding a frequent use of emetics and bleeding. We took care of a young woman in 1839 who, in the hope of inducing abortion, had caused herself to be bled several times by a sage-femme, and whom we found lying without consciousness, in a pool of blood escaped from a varix which she had intentionally opened in one of her legs. But far from obtaining the result she hoped for, the pains in the loins from which she suffered before this guilty attempt disappeared entirely, and she was brought to bed at the proper time of a perfectly well-formed boy. Puzos speaks of the wife of an attorney who was delivered of a healthy child, although she had been bled fourteen times in the arm and seven in the foot; Janot bled a woman forty-eight times, which did not prevent her giving birth to a healthy child at term. Lastly, Mauriceau also speaks of a brother physician who likewise bled his wife ninety times during a pregnancy. Astruc remarks with good reason that if bleeding, especially from the feet, caused abortion, there would be fewer foundlings in the hospitals.

[I saw a lady at the middle of the third month, who had uterine hæmorrhage to the amount of more than twenty ounces, without losing the embryo. I delivered her of a healthy child at full term.—M.]

The same is true of the other causes of abortion; Mauriceau relates the case of a woman pregnant at seven months, who, in order to escape from a fire, let herself slide from a third story; but losing her hold from fright, she fell upon some stones and fractured her forearm, which did not prevent her pregnancy from reaching its term. Madame Lachapelle cites the case of a young sage-femme, pregnant and affected with a contracted pelvis, who threw herself down a staircase in order to bring on abortion, and thus avoid the Cæsarian operation; she died a few days afterwards, from the effects of the fall, but abortion did not take place. We took care of a washerwoman pregnant at six months, who had contused her whole body in a fall which she met with while carrying clothes; the accident did not prevent her from reaching her term of pregnancy. The employment, for a criminal purpose, of drastic purgatives, of emetics, of the most powerful emmenagogues, as well as the most violent exertions, has often caused different acute diseases and even death, without provoking the expulsion of the fœtus. Pregnancy has been known to go on, notwithstanding the presence of a polypus in the uterus, of the existence of a cancer of the neck, or even of a wound of that organ. Since

causes of this kind act so readily in some cases, while they exert no action in others, we ought to admit that in the former there existed predisposing causes of abortion. We must remark, moreover, that there is a predisposition common to all women, that which corresponds to the menstrual periods, an epoch when a fluxion towards the womb is established which disposes the ovum to become detached. This explains why, in the early months of pregnancy, miscarriages are never more frequent than at epochs coinciding with those of menstruation.

*Periodical* abortion, or that which takes place at nearly the same period of pregnancy, in the same women, is one which seems to depend most clearly upon the spontaneous or menstrual *molimen*. This kind of abortion may be the result also of a special condition of the uterus, and especially of one in which the cavity of the organ cannot extend beyond certain limits. Moreover, this accident of gestation is the more to be feared in proportion as the female has already had a considerable number of them. As to mechanical causes and criminal manœuvres, those who employ them generally fail in their purpose, and succeed only in wounding the uterus and bringing on disorders that may have the most unhappy consequences to the unnatural women who demand them.

The *symptoms* of abortion vary according to the stage of the pregnancy and the nature of the causes which have produced it. When the result of some disease and during the two first months of gestation, it often happens that the ovum, then of small size, is suddenly expelled almost without pain or hæmorrhage. This kind of miscarriage scarcely differs from a slight attack of hæmorrhage or from a somewhat difficult menstruation. At a later period, the expulsion of the fœtus may produce most of the phenomena of an ordinary labour, but it is generally preceded by malaise, lassitude, rigors, languor, sadness, syncope, sensations of cold about the pelvis, paleness of the face, palpitations, fetid breath, swelling and dark colour of the eyelids, anorexia, nausea, thirst, pains in the loins, and sensation of weight about the external genital organs and towards the fundament. To these phenomena should be added elevation of the pulse; falling of the breasts, which now secrete only a serous liquid; the discharge from the vulva of a humour at first sanious, and then sanguineous, to which succeeds liquid or grumous blood; diminution or absence of the movements of the child; lastly, falling of the abdomen; uterine pains becoming gradually stronger and more frequent; the progressive dilatation of the os uteri and protrusion of the membranes; the expulsion of the liquor amnii, and after a time the expulsion of the product of conception, which generally puts an end to the hæmorrhage.

When abortion is the result of a powerful disturbing cause, it happens sometimes that the action of this cause is immediately followed by an abundant hæmorrhage, which does not cease until after the expulsion of the fœtus and its appendages, which expulsion is always accompanied by lancinating pains felt chiefly in the direction from the umbilicus to the vulva. We should remark that in general the

symptoms of abortion resemble those of labour the more closely in proportion as the pregnancy is more advanced; the same is true as to the sequelæ, that is to say, the lochial discharge and milk-fever. In some cases, however, the effusion of blood produced by abortion depending upon an exciting cause is preceded by pains, by weight in the loins, by malaise, by rigors and by a sensation of unusual weight in the sexual organs.

Although the escape of blood, and more especially that of the waters, is always a symptom of threatened abortion, the first of these phenomena has often been seen, and the second even has been observed, without abortion taking place. We attended, in the month of September, 1839, the Baroness of Chab * * *, pregnant at seven months, who, after a fall, was attacked with pains extending from the umbilicus towards the vulva, and with a considerable hæmorrhage, followed by the discharge of the waters; in spite of all these precursory phenomena, the lady reached the term of her pregnancy, and gave birth to a healthy child. A bleeding at the arm, repose, cold and sedative drinks, an antispasmodic and astringent mixture, restored every thing to order and dissipated the symptoms of threatened abortion.

Morlanne cites the case of a female who was not delivered until six weeks after the waters had escaped. M. Velpeau relates, by the authority of another physician, the case of a female pregnant at six months, in whom the bag of waters was formed, and then broke, so that the arm of the child engaged in the vagina; after this the labour was arrested, the fœtus resumed its position, and the pregnancy pursued a regular course. M. Velpeau adds that the author both saw and touched, and that he ought to be believed. It is proper to know, also, that the serous fluid which escapes from the cervix uteri may come from an hydatid cyst or from between the membranes; it may also come from a double pregnancy, in which one ovum is broken while the other remains perfect. Nevertheless, rupture of the membranes and discharge of the waters indicate, almost always, approaching abortion, or at least the death of the fœtus.

It is likewise necessary to know how to distinguish the hæmorrhage which precedes a miscarriage from that which is the result of a return of the menses;—in the former case, the blood is seldom so abundant or so apt to clot, and especially to escape in this form from the genital organs, as when it is the product of an uterus occupied by a fœtus about to be detached.

It is also very important to distinguish uterine pains from the colics produced by difficult menstruation. In abortion, the pains follow the discharge of blood, while, on the contrary, they precede it in menstruation. We should remark, moreover, that the touch will often greatly assist in making the diagnosis, and especially in establishing the fact of pregnancy.

If the fœtus has ceased to live, it is generally soon expelled from the uterus; in some cases, however, its expulsion does not occur until after a longer or shorter period of time. If the membranes remain unbroken, and especially if no air has penetrated the uterus, the

fœtus may remain unchanged for several months, and even years; sometimes it becomes decomposed, and passes into the state of adipocire, as happens in extra-uterine pregnancy. In the early months, it often becomes atrophied, and offers the dimensions of an embryo of a month or six weeks only, though the female be pregnant at several months. In some cases it is macerated in the fluids, and the hard and soft parts of the embryo have been known to disappear completely, and the ovum to be transformed into a true mole.

It sometimes happens, when the fœtus is expelled from the uterus, that the secundines are retained by adhesion, and continue to live and be developed. It is precisely in such cases that fleshy moles are formed. Most generally, especially in the early months, the ovum is expelled entire; it has, however, been known to be expelled, unbroken, at the fifth, and even at the sixth month; but in the greater number of cases, its size will not permit of its escape entire after the second month.

[I have met with many instances in which the embryo has been retained for several months in the womb, after the cessation of its life. In some other cases I have found the placenta, with what had been chorion and amnion, but greatly changed by long residence in the uterus after the death of the embryo, which had taken place so early as to be subject to maceration and solution in the waters. Upon searching for it no trace of it has been discoverable. I should not look upon such, as a specimen of the true *mola*, but as a really depraved ovum. That these ova, (without embryo,) continue to live, and to a certain extent develop themselves, I have no doubt, since upon examining them, certain portions clearly appear to have enjoyed a sanguine circulation, small, it is true, but yet sufficiently considerable, to maintain a low vegetative sort of life for several consecutive months.

I have added this note for the purpose of remarking on the very great difficulty of the diagnosis, and the doubtful nature of the therapeutical indications thereon depending.

I have many times been consulted by persons, who, having had symptoms of pregnancy, had unexpectedly found themselves not advancing in the uterine development pari passû with the lapse of time. The only duty in such cases is to collect with care the history and dates of the mensual periods, to weigh the circumstances that led to the opinion that conception had taken place, and then, by means of the taxis of the hypogastrium and the vaginal examination, to learn accurately the form and size of the womb, the state of the cervix and os uteri, and also to inquire into the actual and past condition of the mammary glands and nipples.

Should the form and size of the uterus lead to the opinion that a fœtus, of an age conformable to the rest of the history of the case, is still contained in the organ, there need be very little hesitation in announcing such an opinion, or in establishing upon it a course of treatment. Care should be taken to

compare the actual development of the womb with the rate at which a fibrous tumour or any other morbid growth might have proceeded; and thus we shall be enabled to judge between the doubtful points of the diagnosis. The doubts would be on the questions—1st, is it pregnancy, with arrest of development? 2d, is it merely engorgement and hypertrophy of the womb? 3d, is it a tumour within the organ? For the most part, by making a clear statement of the various circumstances capable of presenting phenomena like those of the case under consideration, and by examining the grounds for deciding in favour of either, by the method of exclusion, we shall rarely be led into serious mistakes.—M.]

The prognosis of abortion regards both the mother and the child; for the female it is generally more dangerous than labour, because the latter is the performance of a natural function, while miscarriage is a disease. Moreover, its prognosis varies according to the causes which have produced it and the accidents by which it is accompanied. The least dangerous is that which is produced by disease of the ovum; the most dangerous that which has been occasioned by a violent exciting, without any predisposing cause. Spontaneous abortion is always less to be dreaded than forced abortion, and its effects are the less unfavourable in proportion as it occurs more slowly. We remark, also, that the danger is less in proportion as the date of the pregnancy is earlier, as the neck of the womb is more yielding, and as the accident has occurred under the influence of a well-marked molimen. Moreover, the abortion is always of very bad augury when accompanied by convulsions, diarrhœa, or dysentery, and when it occurs in the course of an inflammation, of a fever, or of an eruptive disease. The prognosis in relation to the fœtus is still more unfavourable; for it almost always perishes either from the slowness of the labour, or because of its premature expulsion; we ought to remark, however, that there are to be found amongst authors several examples of aborted children which have survived, although the conception dated only from four to six months. It is generally acknowledged at present that the probability of survival is less in proportion to the distance from full term. It is, therefore, without any good reason that Hippocrates has said that a child at seven months was more likely to live than one at eight. He founded this opinion, indeed, mainly upon the doctrine of numbers. As to the particular condition of the female, abortion is most dangerous for primipara, because the genital organs are less yielding and less disposed to give passage to the product of conception.

The treatment of abortion presents two indications: first, to prevent it by every possible means, and, secondly, if unable to prevent it, to hasten its termination, and to remedy the accidents which accompany it. To fulfil the first indication, it is necessary to modify the individual and the predisposing, and to remove the exciting causes.

If the female is nervous, and especially if her uterine system is in a state of unusual spasm, we must resort to the use of warm baths,

assisted by a demulcent regimen. When she is of plethoric constitution, we may with advantage bleed several times in the course of the gestation, especially at periods corresponding to those at which menstruation had occurred.

It will be useful also to relieve, as far as possible, the fatiguing coughs, the vomiting and constipation, which often accompany pregnancy. We should recommend strengthening food, repose, slumber, and always moderate exercise for delicate persons; we should forbid all violent movements, especially those of the arms, leaping, long walks, the lifting of weights, and riding on horseback, or in a carriage; they should be advised not to expose themselves to intemperate weather, to avoid tight dressing, not to use indigestible aliments, and to avoid, as much as possible, all the vivid emotions and affections of the soul. Should there exist any affection of the uterus or other organ, it must be treated by a suitable medication; while we should have recourse to the employment of mercurial preparations, if the pregnancy were complicated with syphilitic disease.

Though bleeding is generally one of the most powerful means for preventing abortion, it ought not to be indiscriminately resorted to in all cases; wherefore we know not how to condemn too strongly the habit which some physicians have of always bleeding in the course of the pregnancy, without first distinguishing the circumstances which call for its employment, which is as hurtful, in some cases, as it may be advantageous in many others.

When hæmorrhage occurs, the patient should be made to lie down immediately upon a hard and fresh bed, and be directed to maintain absolute rest. We should make use of cold acidulated and astringent drinks, especially of rhatany, of external revellents, of iced applications, injections and enemata; and if there are symptoms of nervous agitation or convulsions, antispasmodic and anodyne preparations ought to be employed. Moreover, bleeding is one of the best means we can recur to, but it must be used with reserve and precaution; for, as it is often powerless against abortion, the accident which it failed to prevent might be ascribed to it. In general, so long as there is any hope of opposing abortion, we should avoid the employment of foot-baths, of manuluvia, and of full baths. In a contrary condition, their use might be advantageous.

Should the hæmorrhage become so great as to endanger the life of the patient, recourse must be had to the tampon, which has the advantage of arresting the hæmorrhage and often the abortion, or else, by the accumulation of blood, which it causes in the uterus, of determining the contractions of the organ, separating the placenta, and assisting in the expulsion of the product of conception. Under these circumstances, ergot might prove useful, but it should be employed with care, and only after having tried all the other means, precautions the more necessary as it almost always favours the expulsion of the ovum.

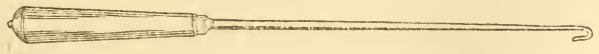
When the means we have just pointed out fail to arrest the pains and hæmorrhage, and especially when the cervix begins to relax and dilate, abortion is inevitable. The physician, under these circum-

stances, has nothing to do but assist the delivery, and aid the woman in ridding herself of the fœtus and its appendages. If the patient is strong, we must recur to venesection; opium must be administered internally, when the pains are very acute; an ointment of belladonna and opium may be applied to the cervix uteri, if it be sensitive and firmly contracted, and emollient and narcotic injections might also be used under like circumstances. Moreover, should the ovum be detained a long time in the cervix, it would be advantageous to introduce the finger, and, in this way, assist its escape; but the membranes must not be ruptured until the orifice of the womb is fully dilated, and the fœtus properly engaged. When possible, the placenta ought to be extracted, by pulling upon the cord, taking care, however, not to break it. We might, at the same time, administer ergot and use frictions over the hypogastrium to excite the uterine contractions. If it could be done without using too much force to penetrate the cervix, we should endeavour to separate the placenta with the aid of the finger. When this is impracticable, its separation must be abandoned to the vital forces of the organism. The sequelæ of the escape of the fœtus are generally the same as those of an ordinary labour; that is to say, the lochia and the milk-fever require the same attention.

[I believe that the most successful mode of treating persons who are predisposed to abortion, before the period of quickening, is one which I have long employed, and with a most satisfactory success. It was indicated to me, many years ago, by the late Dr. Physick, as one which he had been much accustomed successfully to employ. If the patient has had repeated miscarriages, I advise her to use an anodyne enema, consisting of a wineglassful of boiled starch, mixed with forty drops of laudanum, to be taken at bedtime, and to be repeated every night, until quickening takes place. Perhaps the influence of the laudanum may be useful in suppressing or lessening the act, or the effect of the vesicular developments in the ovaries; or at least it may deprive the uterus of an abnormal degree of sensibility, the persistence of which might lead it to the early contraction of its walls and the consequent expulsion of the fœtus.

Dr. Dewees gives, in his work on *Midwifery*, p. 404, 2d edition, the

Fig. 48.



adjoining drawing of what has been here long denominated Dewees' placenta-hook, and which is sold by the surgeons' instrument-makers of this city. The figure is one-third less than the usual size of the instrument. Dr. D. gives the following directions as to the use of it:

"The forefinger of the left hand is placed within, or at the edge of the os tincæ; with the right we conduct the hooked extremity along this finger

until it is within the uterus; it is gently carried up to the fundus, and then slowly drawn downwards, which makes its curved point fix in the placenta: when thus engaged, it is gradually withdrawn, and the placenta with it." —(*System of Mid.*, p. 404.)

The distinguished writer speaks of the success he has met with in using this instrument; but I cannot say that, in the various occasions of trying the hook, I have been so fortunate. In fact, I have learned to believe that where the cervix and os uteri are dilated, or dilatable, the ovum, whether entire or broken, in abortions, comes readily to the os uteri, from whence it may be taken with the point of the forefinger; and that, where the passage is not dilated, all attempts to pull it away by force are both unnecessary and dangerous.

In abortions, there is no hazard in the use of the tampon, where it is resolved that all hope of saving the pregnancy is to be abandoned. Perhaps some reflection and hesitation might be proper, as to the tampon, at five or five and a half months of gestation; but, up to the period of four or four and a half months, I look upon the tampon as the means of security in all hæmorrhages from abortion; and I very confidently expect, in general, that upon the withdrawal of the tampon, after its purposes have been subserved, I shall find the ovum in the cervix and os uteri, whence I can take it with the finger. Dr. Dewees' placenta-hook would be very convenient under such circumstances, no doubt; yet, where the dilatation of the passages is incomplete, the hook would be very apt to tear out of the soft and often semi-putrid mass of the placenta.

Fig. 49.

My friend, Dr. Henry Bond, a highly esteemed practitioner of our city, has lately published, in the *Amer. Jour. of the Med. Sciences* for April, 1844, an article on the "Extraction of Retained Placenta in Abortion."

Dr. Bond, in the very sensible paper in question, examines the pretensions of the various instruments in use for the purpose, and, after weighing their several merits and defects, he proposes a new instrument, which he calls the *placental forceps*, of which the adjoining cut gives a good idea. "The instrument is ten inches long, curved laterally on a radius of about twelve inches, and the blades are about an inch and a half longer than the handles. The blades terminate in an oval expansion, nearly half an inch wide," &c.

I have had, hitherto, no occasion to make use of

Dr. B.'s placental forceps; but I feel assured that it is the most convenient, safe and useful implement that has as yet been proposed for the purpose.

A good many cases of abortion, in the early stage, as from the sixth week to the tenth, have fallen under my notice, in which the uterus was unable to expel the remains of the ovum, and in which I could not extract it. The patient, in such instances, has always recovered, without the ovum having been visibly discharged, except with here and there a shred or a lump of macerated organic matter. In these samples there is a nearly constant excretion of dark grumes and offensive sanies, sometimes bloody, and often of a rust colour. I presume that the remains of the ovum undergo a slow maceration and decomposition, so as to escape imperceptibly. I consider it better to leave the ovum, in such cases, to the care of nature, than to reiterate attempts to extract it by force; there is as great danger of exciting inflammation of the womb, by such attempts, as by leaving the placenta to the process of gradual maceration and discharge. I am not disposed to deny that the presence of a putrefying substance, even of a small size, in the womb, is capable of developing violent inflammation and fever; but it has not happened so with me; and I have given advice to some of my younger medical friends, when consulted on such occasions, to abandon the attempt; it being always understood that reasonable efforts ought to be made to get the placenta away.—M.]

## OF NAUSEA AND VOMITING.

Diseases of pregnancy depending upon the sympathetic influence of the womb upon the different functions of the organism.

*Nausea* and *vomiting* are phenomena which so frequently accompany pregnancy, that their presence is ordinarily its first symptom, and is sufficient to make us infer its existence.

Nausea, which may be regarded as the first stage of the vomiting, sometimes exists alone, and is more distressing, even, when it persists, than the latter. Some writers have supposed that these accidents of pregnancy were owing to the pressure of the womb upon the stomach, and of the thrusting of that viscus up into the œsophagus. This opinion is inadmissible, especially in the early months, for the nausea and vomiting often appear immediately after fecundation, and generally become less frequent in proportion as the womb increases in size, and ascends in the abdomen. For the same causes, the early signs of pregnancy can with no better reason be ascribed to plethora, as supposed by Boerhaave and Smellie. They are evidently, therefore, due to the sympathetic action of the gestative organ upon the stomach. Besides, this influence is further demonstrated by the derangement of the digestive functions, where the uterus is the seat of any disease whatever.

The nausea and vomiting generally cease after the third or fourth month. In some cases, however, they last until the onset of labour, while in others they cease at first at the ordinary time, but reappear in the later months, which seems to depend upon the pressure which the womb then exerts upon the stomach.

The sympathetic phenomena also vary exceedingly as to their frequency, and the periods of the day at which they make their appearance. Most commonly, the vomiting occurs in the morning, and then consists merely of a viscid fluid. It often occurs, also, in the course of the day, and especially just after meals. The solid and liquid food are both rejected; and there are some women who scarcely retain a few spoonfuls of sweetened-water, or of broth or coffee, while in others, again, the vomiting is calmed by the ingestion of food into the stomach.

In some cases, where the vomiting is very frequent and painful, it may bring on abortion, especially where a predisposition to it exists. Though not always followed by unfortunate consequences, the violent succussions which it occasions, and the diminution in the amount of nourishment produced by it, necessarily cause emaciation and debility in the patient.

[I have met with but one case of abortion that could be attributed to the vomiting, whence I conclude that nausea and vomiting are rarely causes of abortion.—M.]

The sickness appears to be connected sometimes with a gastric derangement, characterized by a bitter taste in the mouth, by a yellow colour of the tongue, and by bilious vomiting. It is very important to distinguish cases of this kind from those which depend upon a sympathetic influence of the uterus upon the stomach. The diagnosis is generally easy when no doubt exists as to the fact of pregnancy.

Though the vomiting is exceedingly distressing in some women, the prognosis is not generally unfavourable. We have often known pregnancy to pass happily through all its stages, though accompanied, during its whole course, by vomiting, giving rise to very violent general spasms and excessive pain in the epigastric region.

The *treatment* of vomiting varies according to its violence and frequency, and the nature of the causes whose action produces it.

When sympathetic, we generally recommend a mild regimen, and especially one composed of the articles most easily digested by the patient. In many women, the most indigestible, and least suitable in appearance, are the only ones which the stomach will bear: it is better, when such is the case, for them to take improper food than none at all.

Some women likewise find it useful to take, after meals, a small glass of Madeira or Frontignac wine, or of pure brandy even, or of cherry-brandy, or of rum alone or mixed with water. Good effects have been obtained from Riverius's draught, also from Seltzer-water, from Columbo root, from a few drops of laudanum, or ether, from mint-water, from syrup of poppy-heads, from two or three ipecacuanha troches, and, lastly, from extract of cinchona or sulphate of quinine, especially if the vomiting and epigastric pain are accompanied by slight febrile movement, and seem to assume a periodical character. Some practitioners have also recommended, when the vomiting is obstinate, the application of a large cup over the region

of the stomach, after each meal. The use of an opium plaster, or of a poultice, sprinkled with Sydenham's laudanum, has likewise been tried. Finally, in two cases of purely nervous vomiting, M. Joubert, of Lyons, cured the patients immediately, by the application of a mustard plaster over the last dorsal vertebræ.

We have obtained the same result, on several occasions, by means of frictions upon the epigastric region, with Autenrieth's antimonial ointment.

If the vomiting coincides with a saburral condition and with gastric derangement, we resort to the employment of some mild purgatives, as, for example, a Seidlitz powder, manna, castor oil, cassia, tamarinds, rhubarb, infused in the proportion of four grains, and to emetics, even. We combine, with these means, a properly regulated regimen, or a rigid diet; the use of acidulated and gummy drinks, lemonade, gooseberry syrup, baths, and emollient enemata and cataplasms.

If the sickness coincide with a plethoric condition, especially if the woman have been abundantly regulated before pregnancy, we must resort to bleeding from the arm and to the application of leeches to the epigastrium, especially when that region is painful and exhibits some signs of inflammation. We might, at the same time, make use of diluents, and subsequently of antispasmodics. It is proper for us to remark, moreover, that, in some women, pregnancy is unaccompanied by either nausea or vomiting, and that none of the sympathetic phenomena we have yet to notice, occur in them.

## OF PTYALISM.

Ptyalism, which constitutes one of the first signs of pregnancy in many women, is characterized by an excessive secretion from the salivary glands, far more inconvenient than dangerous. This exuberance of salivation generally appears soon after conception, and ceases commonly towards the fourth month; but, in some cases, lasts until the end of gestation, or does not even make its appearance until a short time before labour.

The ptyalism, which is, in some sort, a precursory symptom merely, and a primary degree of the nausea and vomiting, seems to depend, like them, upon the increased vitality of the uterus during pregnancy, and upon the sympathetic relations existing between the gestative organ and the salivary glands.

When the salivation is slight, it is to be left to nature; but though it is dangerous to arrest the secretion suddenly, especially when the quantity is very great, it is wise to moderate it should it produce debility of the patient and derangements of the digestive functions. To attain this end, all that is commonly necessary is to keep the bowels soluble by diluent and laxative drinks, by fluid magnesia, by enemata and by a substantial and digestible regimen.

We may recommend, also, the use of sulphur troches, of opiate gargles, of draughts with balm, mint, and canella water, taken by spoonfuls throughout the day. Should these means fail, we may employ bleeding, or make applications of leeches to the angle of the jaw.

[I recently had a lady under my charge, who had ptyalism throughout the whole pregnancy; for many months she discharged at least a pint of saliva daily, and was not very sensibly weakened by the discharge.—M.]

## OF ODONTALGIA.

The odontalgia of pregnant women may depend on different causes, which require particular plans of treatment.

The affection is generally a dental neuralgia, which commences with more or less violent pains, confined generally to the lower jaw. When this is the case, all the teeth of one or both sides of the jaw are painful, while, if the odontalgia depends upon caries, the pain is confined to the diseased tooth. The aching is sometimes so violent, that it extends to the whole face and in the course of the branches of the seventh pair of nerves. It is proper to remark, also, that there is neither swelling, heat, throbbing, nor any trace of change of tissue in toothache of this kind, as happens when the dental pain depends upon an inflammatory condition.

To relieve the neuralgic affection, Meglin's pills are used, in doses of four or six pills daily; the sub-carbonate of iron combined with rhubarb; emollient and anodyne lotions, and, also, cataplasms of the same kind. To these means are added the application of a plaster of extract of opium over the course of the diseased nerve, and that of a blister behind the ear on the affected side; in some cases, the application of four or five leeches to the gums cannot but be advantageous, and assist the action of the other remedies. When the neuralgic pains are intermittent, which is often the case, sulphate of quinine united with opium is prescribed; lastly, should all these means fail, we may make trial of the following, recommended by Guillemeau:

Take the whites of two eggs, common pepper in powder ℥ii, beat strongly together and spread the preparation on tow, which is to be applied to the cheek of the affected side.

If the odontalgia depend upon an inflammatory state of the gums, the patient experiences heat and throbbing at the diseased point; an abscess sometimes forms in the alveolus, which suppurates around the tooth and gives rise to swelling and pain that often extend to the eye and even the ear of the same side. The pain, which is kept up in the case by plethora, generally yields to the employment of bleeding from the arm and to the application of leeches to the gums. It is advantageous to add to these means the use of foot-baths, of enemata, of diluent drinks, rigid diet, and lastly, attention to keeping the head warm, and the employment of emollient vapours directed to the mouth.

When the toothache depends upon caries of a tooth, it must be promptly extracted, unless the female is so irritable as to make us fear abortion; then we should combine with the employment of internal and external antispasmodics the application of a blister behind the ear of the affected side. If the dental pains be caused by gastric derangement, the treatment ought to consist in the use of laxatives, and amongst others of fluid magnesia.

## OF ANOREXIA.

*Anorexia*, or the disgust inspired by food, is a phenomenon often observed in pregnant women, especially in the early months. In some cases it exists in regard to certain kinds of food only, but generally includes all descriptions. Like the affections already described, the anorexia may be caused either by a nervous condition of the stomach, by gastric derangement, or by a state of plethora which is met with principally in women of strong and sanguine constitution.

When of a nervous character, it may be recognized by the absence of the signs which characterize the other varieties; it is to be treated by antispasmodics and sedatives; among others, emollient fomentations to the epigastric region, general baths, enemata, weak infusions of linden-flowers, of orange-flowers, of chamomile, and of valerian, sweetened with ether syrup, and with the addition of a few drops of Sydenham's laudanum.

We may join to these means the use of Seltzer-water with or without lemon juice, and sometimes that of the ferruginous preparations, among others, the subcarbonate of iron.

If anorexia occurs in a female in whom a hard pulse, strong throbbings of the heart, swelling of the veins, general numbness, and redness and puffiness of the face, show that there is evident plethora, rigid diet, bleeding at the arm, and even leeches to the epigastrium are indicated, especially during the fourth and fifth months of gestation. Finally, when the loss of appetite depends upon gastric derangement, with bitter and pasty mouth and yellowish or whitish fur upon the tongue, it becomes proper to prescribe diluent drinks, and lemonade; moreover, if there is no pain at the epigastrium, the saburral state of the stomach may be more directly treated by means of ten or twelve grains of ipecacuanha or by a mild saline purge, in case no intestinal disorder be present. Anorexia depending upon debility of the stomach generally yields to the employment of tonics, bitters and ferruginous waters.

We may add that it is generally unnecessary to do much for anorexia, as it commonly ceases after the fourth month of pregnancy; when it lasts longer, it becomes in some cases a means employed by nature to prevent plethora. Besides, the want of appetite seems to have but little influence in some women, who bear well-formed children, and retain their embonpoint and freshness through the whole of the gestation.

## OF BOULIMIA.

Though we generally find that pregnant women lose their appetite and take complete disgust to all kinds of food, there are some also who, during pregnancy, have an extraordinary appetite. This species of boulimia, which often gives rise to gastritis, to vomiting and to difficult digestion, and which becomes sometimes a necessity so imperious as to amount to delirium, often yields to the employment of some nourishing liquids, such as broths, rice-milk, chocolate, or else

to the use of other substances containing a large amount of nutriment in a small space, among others the animal jellies, feculent substances or eggs in the shell. We may likewise cheat the hunger by means of some morsels of chocolate or sugar; and we may modify the abnormal nervous state of the stomach with the gaseous and ferruginous waters and with some of Darcet's troches.

### OF DYSPEPSIA AND POLYDIPSIA.

Though the difficulty of digestion called dyspepsia is in some cases symptomatic of an affection of the stomach, it is ordinarily idiopathic in pregnant women, and constitutes a neurosis of the digestive apparatus. The patients experience, after eating, a sensation of fulness and distension at the epigastrium, ordinarily accompanied by general uneasiness, by more or less thirst, and sometimes by nausea, vomiting and cardialgia.

The prognosis of the affection is generally good, for it commonly begins with pregnancy and disappears after the fourth or fifth month. Sometimes, however, it does not appear until the latter months, but ceases in that case with the gestation. In all cases it seems to exert but little influence upon the development and health of the child.

The treatment of the disorder is very simple: it consists in the employment of the bitter medicines, such as the infusions of gentian, of the lesser centaury, of absinthium, of mint, rhubarb, and especially of chamomile. The action of these remedies is assisted by the use of the ferruginous and gaseous waters, mixed with a little wine; and by wholesome food composed of articles of easy digestion, such as meat soups, white meats and very ripe fruits. Finally, the digestive powers of the stomach are sustained by Vichy troches, by some alcoholic liquor, among others, Bordeaux anisette, cherry brandy, and Garus's elixir, or by the use of coffee or tea. It is proper to remark that in some cases, we may resort with advantage to the employment of antispasmodics, given conjointly with tonics. If the dyspepsia be brought on by *polydipsia*, or excessive ingestion of liquids into the stomach, it may be remedied by the use of baths, of a few grains of nitre in lemonade, taken frequently and in small quantity at a time, or else by means of ether and water, according to the recommendation of Baron Larrey.

### OF CAPRICIOUS APPETITE (PICA, MALACIA.)

The longings of pregnant women are as variable as they are numerous. Some are tormented with a desire not only to eat substances which are not included in the list of aliments, but which are of the most disgusting character even. This constitutes the *pica*, while by the term *malacia* is meant the exclusive desire for a substance belonging to those used as food. We have seen women who, though completely fastidious, were affected with one of these depravations of taste, and who longed to swallow chalk, plaster, cinders, charcoal, green fruits, vinégar, strong liquors, suet, caterpillars, flies, spiders, and even excrement. Anomalies of this kind, which are

also observed in hysterical and chlorotic women, and in those who have suppressed or irregular menstruation, are quite frequent in the early months of pregnancy, and commonly cure themselves. In general, it has been remarked that, whatever be the substances that are introduced into the stomach in this condition, no evil has resulted to the female from it, which to a certain extent permits us to suppose that it is nature which inclines her to introduce into her economy materials necessary to her new physiological condition.

Without believing in the marvellous effects of the spots (*nævi ab imaginatione*) and deformities of the fœtus occasioned by the caprices of pregnant women, we are of opinion that there is no reason for denying them any thing, or for refusing to yield to a well-marked appetite, unless, indeed, the substances longed for are evidently hurtful. It is readily conceivable that a disappointed wish and an ungratified longing carried to a certain extent may produce dangerous consequences to the mother, and thus interfere with the formation and development of the embryo.

The treatment of capricious appetite is nearly the same as that of the other neuroses of the stomach; that is to say, we prescribe emetics and purgatives, where the affection coincides with a gastric derangement; bleeding, if there is plethora; and, finally, antispasmodics, syrup of ether, and laudanum, as well as the bitter infusions of the lesser centaury, of balm, and of rhubarb, and the martial preparations, should the first means not suffice. We shall add that the disease is often left to itself, because it almost always yields after the first months of pregnancy, and generally bears upon substances, that do not prevent the female from taking other aliment, and enjoying comfortable health.

## OF PYROSIS, DYSPHAGIA AND HEARTBURN.

Pyrosis is an affection which consists in a sense of burning pain in the stomach, with eructation of an acrid fluid that produces a very painful feeling of heat throughout the œsophagus, and even in the mouth.

The causes of the affection are almost always inappreciable; nevertheless, they commonly occur in persons who make use of food that is heavy and difficult of digestion, as fried dishes, salt meats, old cheese, and alcoholic liquors. In pregnant women, it generally occurs in the first months of pregnancy, without our being able to ascribe it to any other cause than the sympathetic influence of the uterus upon the stomach.

Idiopathic pyrosis, or even that which is symptomatic of pregnancy, is generally a disease of which the prognosis is not unfavourable; for when it occurs in the early periods of conception, it ceases towards the fourth month, or else, when it comes on in the latter period of pregnancy, it terminates at the period of the delivery.

The treatment of a pyrosis in pregnant females generally consists in the administration of magnesia, and of lime-water combined with antispasmodics and anodynes, such as extract of valerian, syrup of

ether, and especially opium, given in the paroxysms. To these means are added a milk and vegetable diet, and demulcent and mucilaginous drinks. Sometimes the employment of the martial preparations, among others, the subcarbonate of iron and the ferruginous waters, are found to answer well. Good results have also been obtained from the internal use of nux vomica in powder, in the dose of from one to three grains, twice a day. Finally, when the disease attacks periodically, the latter are advantageously treated by means of sulphate of quinine combined with a little opium.

Dysphagia, or difficulty of swallowing, characterized by spasmodic contraction of the œsophagus by the sensation of a body arrested in the throat, is a phenomenon often produced by the sympathetic influence of the uterus in pregnancy. Though the nervous symptom, under these circumstances, is commonly transient and unimportant, it nevertheless sometimes requires a treatment consisting in the employment of antispasmodics, and frictions of the lateral and anterior portions of the neck, with balsam of Fioraventi and *baume tranquille.* We have found the following ointment to answer a very good purpose in our hands:

R.—Extract Belladon., grs. xlvii.
" Stramon., grs. xv.
Cerati, ℥i.
Olei Limon., gtt. xii.
To be applied by friction, to the neck, morning and evening.

We have cured the dysphagia also by giving to the patient a little cherry brandy, rum, or Bordeaux anisette mixed with water.

*Heartburn* is a very common indisposition in pregnant women, especially in blondes and those of a lymphatic temperament. It is a frequent symptom of dyspepsia, but, in the greater number of cases, results from an aberration of taste, since the patients find all their food to be acid, or else, which is still more common, it is produced by acids actually existing in the stomach.

The acid sensation, which is more inconvenient than dangerous, and which generally ceases towards the fourth month, commonly coincides with paleness of the face, heat in the region of the stomach and along the œsophagus, and with risings and even vomiting or eructations of acrid matters.

For the treatment of this affection are recommended tonics, especially cinchona, gentian and rhubarb. We prescribe also, in order directly to neutralize the acids of the stomach, alkaline substances, magnesia, the subcarbonates of soda and potassa, Darcet's troches, and especially a spoonful or two of lime-water in half a cup of milk, taken two or three times a day. To these means should be added a tonic regimen, roast meats, nourishing soups, moderate exercise, and residence in the country, or, at least, in a dry and temperate air.

## OF GASTRALGIA.

The gastralgia, to which pregnant women are subject, is characterized, like other forms of the same disorder, by acute pain, and by

a feeling of dragging and laceration at the epigastrium. This kind of gastralgia, vulgarly known by the name of *nervous colic* or *cramp of the stomach*, may, in some cases, suddenly disappear, and not return. When momentary merely, the functions undergo no sensible change; but where it continues with full violence, the patient, more and more oppressed, is obliged to sit down, to keep the body inclined, and bend herself forward while pressing upon the epigastrium. We can distinguish nervous pains of the stomach from those produced by inflammation of that organ, by observing, that in gastralgia there is always absence of fever; that the tongue presents its natural colour, and that the pains, which have intervals of paroxysm and repose, are not aggravated, but are even relieved, sometimes, by pressure. The contrary occurs in gastritis, which occasions less severe, but always more constant pain.

We have seen attacks of gastralgia occur in some women, as soon as the stomach became empty, while the pains ceased immediately upon taking some solid or liquid substance. In others, again, they recur immediately after eating, or after the slightest impression of cold upon the arms, shoulders, and especially the feet.

The treatment of the disorder, which differs but little from that of the preceding, presents two fundamental indications. The first consists in acting during the paroxysm, so as to lessen its severity and duration, and the other in preventing, as far as possible, the return.

During the paroxysm, a large flaxseed poultice should be applied to the epigastrium, as hot as the patient can bear it. It is well to sprinkle the poultice with a little mustard; but, when this is done, it must be kept applied a shorter time. It is good also to prescribe several tablespoonfuls of some antispasmodic mixture. We have always found the following to answer extremely well:

℞.—Of orange and linden-flower water, each two ounces; of syrup of ether and of valerian, each an ounce; of syrup of poppy-heads, half an ounce. Of this, a teaspoonful is to be given every quarter of an hour.

To prevent the return of the paroxysm, we should prescribe the use of baths, enemata, diluent drinks, and warm applications to the epigastrium; or else frictions of that region with tartar-emetic ointment. We may also use, with advantage, infusions of linden-flowers, of orange-flowers, or of chamomile, sweetened with a little syrup of poppy-heads or of ether. There have been recommended, also, the subnitrate and white oxyde of bismuth, in the dose of four to six grains, administered at two or three different times in the day, in a spoonful of sweetened water or syrup. We have always prescribed, with greater advantage, the extract of valerian and subcarbonate of iron in the pilular form. We have likewise obtained good results, sometimes, by directing the internal use of ice, or else of a small quantity of Garus's elixir, especially for the purpose of diminishing or dispelling the paroxysms. Finally, we must associate with the employment of these means a regimen composed of aliments of easy digestion, and the use of tea after the meals, and of the gaseous waters of Seltz or of St. Albans, mixed with wine and taken with the food.

## OF ENTERALGIA.

There is another form of neuralgia, to which pregnant women are subject; that which is known by the name of *enteralgia* or *nervous colic*. This affection, which depends upon a spasmodic and sympathetic condition of pregnancy, generally prevails in the early months, in the form of intermittent, shifting pains, unaccompanied by febrile movements, however severe they may be, and which are not increased by pressure upon the abdominal parietes.

This kind of colic, which may also be occasioned by cold, requires nearly the same treatment as gastralgia, that is to say, we must oppose it by baths, poultices, fomentations, and emollient and anodyne enemata, as well as by infusions of linden-flowers, of chamomile, and of tea sweetened with syrup of ether and of poppy-heads. Barthez recommended, in such cases, a bolus composed of camphor, nitrate of potash and assafœtida. If flatulence accompany these symptoms, we might relieve it by frictions with the *baume tranquille*, or by warm poultices sprinkled with oil of hyoscyamus or chamomile, upon the abdomen. Lastly, should there be any symptoms of plethora or inflammation, bleeding must be resorted to.

## OF CONSTIPATION.

Constipation is very common in pregnant women, especially towards the end of pregnancy: it is generally caused by the pressure of the enlarged womb upon the colon and rectum, whence results difficulty in the passage of the fecal matter. It may depend also upon a vital lesion or intestinal neurosis connected with the spasmodic irritation of the uterine system. Whatever be the cause of the difficulty, when it is carried to some extent, it produces anorexia, renders the digestion difficult, causes restlessness, insomnia, cephalalgia, sadness and capricious temper. The efforts made by the female to expel the abundant and hardened fecal matter, may become a source of uterine hæmorrhage, and even of abortion; while the continual pressure of the excrements upon the extremity of the intestine, may determine, at that point, inflammation and hæmorrhoidal tumours.

Moreover, the constipation exists in different degrees. When it does not last more than three days, most women are little disturbed by it; but when the stools occur at longer intervals, it may give rise to all the inconveniences we have pointed out.

It is of the utmost importance, therefore, to prevent or dissipate, or at least to diminish the unfavourable effects of constipation in pregnant women. It must be treated by various means, except the drastic purgatives, the use of which may occasion the most dangerous accidents. It is, however, upon a mild and relaxing regimen that we should chiefly rely: thus we may with advantage prescribe the white meats; dressed vegetables, particularly sorrel, lettuce and spinage; cooked or very ripe fruits, such as cherries, melons, grapes, prunes, strawberries and oranges. It is well to add to these dietetic

means, the employment of warm baths, the use of vegetable or veal soup, lemonade, cream of tartar, milk weakened with water, decoctions of tamarinds, cassia fistula, or of prunes, and barley-water sweetened with honey, according to the taste of the patient and the effects produced.

Should these measures not be sufficient, we must recommend emollient and laxative enemata, prepared with brown sugar, honey, senna, French mercury, oil or butter. We may likewise employ the mild purgatives, such as manna, castor oil, Seidlitz water or phosphate of soda. We have treated the obstinate constipations of pregnant women successfully, by means of suppositories of *beurre de cacao*, employed three times a day, and a grain of calomel taken at night, on going to bed, in half a tumbler of sweetened water. Finally, in some bad cases, when the fecal matters are so impacted in the intestine as to make it impossible to expel them by enemata and purgatives, it becomes indispensable to extract a large portion of the mass with the finger or a scoop. The impossibility of introducing a canula or of injecting fluids into the rectum, indicates the accidental occlusion of the intestine, and should decide the physician to remedy it as soon as possible, by the use of the finger. It is proper to remark, further, that in some subjects, frictions of the abdomen, the application of a cold body, as ice, to the soles of the feet, just as the use of beer or coffee, especially if a glass of water be taken afterwards, almost immediately produce an evacuation of the fecal matters.

## OF DIARRHŒA, DYSENTERY AND TENESMUS.

The *diarrhœa* of pregnant females, which consists of a more or less frequent evacuation of mucous, serous or bilious matters, depends almost always upon a nervous cause, that is to say, it depends upon the sympathetic influence of the uterus upon the digestive canal. In some cases, however, the diarrhœa is produced by an intestinal irritation, which betrays itself by sensibility of the abdomen, by heaviness of the head, by a saburral condition, by a mucous coat upon the tongue, by difficulty of digestion, and elevation of the pulse. In the sympathetic or nervous diarrhœa, the patients are without fever, or colic; the mouth, tongue and appetite retain their normal condition.

When the evacuations are mixed with blood, it takes the name of dysentery, which is always the result of an irritation of the intestines, and which is generally accompanied by fever, colic, tension and sensibility of the abdomen. Lastly, the disease receives the title of tenesmus, when it consists of a constant, painful and nearly unavailing desire to go to stool, and when accompanied by burning heat at the fundament. The last-named affection generally occurs towards the end of pregnancy; and the straining which results from it has been known to produce abortion. The compression exerted upon the rectum, and the constipation thereby produced may sometimes give rise to tenesmus; but this affection commonly depends upon the diarrhœa or dysentery.

A diarrhœa occurring at the commencement of pregnancy, is commonly of little consequence; as the woman retains her appetite and strength, it may be left to nature, or, at least, treated simply by careful diet, rice water, and emollient enemata. Should there be symptoms of gastric or intestinal irritation, and especially if the tongue be coated and give evidence of a saburral condition, resort must be had to the employment of demulcent and anodyne enemata, drinks of the same kind, baths, fomentations and poultices; and even to an application of leeches about the anus, particularly in women of strong and plethoric constitutions. In some cases, evacuants also are prescribed; ipecacuanha in a dose of several grains, and infusion of rhubarb, with addition of four drachms of sulphate of soda. If, notwithstanding the use of these means, the diarrhœa should persist, and especially if the woman loses her strength, we must resort to the bitters, such as gentian, the lesser centaury, rhubarb, infusion of chamomile, and, after a proper time, to wine of absinthium, to Bordeaux wine, to diascordium, to theriac, and to opiates. It will be well, also, to use tonic and sedative enemata, prepared with a weak decoction of cinchona and a few drops of laudanum.

In the treatment of dysentery, we must recur to opiate preparations chiefly; for example, opium is to be prescribed in all its forms. For ordinary drink, the patients should make use of rice water with gum, with the addition of fifteen drops of Sydenham's laudanum; they should use, two or three times in the day, enemata of decoction of althæa or flaxseed, with twenty-five drops of laudanum. Lastly, there is a remedy which has always succeeded in our hands, consisting of a mixture of the whites of six eggs, beaten in a quart of water, to be taken both as a drink and as enemata. Care must be observed to use enemata, of small size only, several times a day; and they ought to be retained, if possible. The portion of the same liquid which is used as drink, ought to be sweetened with sugar, or, still better, with half a tablespoonful of syrup of poppies, to every glass. The two last means are particularly useful when the dysentery is complicated with tenesmus, which requires nearly the same treatment as dysentery.

The power of these remedies may be assisted by dieting, or by an analeptic regimen, composed principally of moderately rich soups, feculent substances, animal jellies, white meats, fresh eggs in the shell, and of substances of easy digestion.

## OF DYSPNŒA.

### Affections of the Respiratory Organs during Pregnancy.

Several sorts of dyspnœa often accompany the pregnant state. The first, which is a nervous dyspnœa, generally appears in the early periods of the gestation, and, for its principal character, has intermissions, and returns in regular or irregular paroxysms.

The second species of dyspnœa, which is generally more painful than the first, and which has been looked upon as the result of ple-

thora, occurs more particularly towards the fifth month, and is without intermissions. Finally, the last species, observed towards the end of pregnancy, depends upon the size of the uterus, which presses up the diaphragm, and thereby lessens the capacity of the chest. This difficulty of respiration is remarked principally in women who have narrow chests and contracted pelvis; in primipara, in those who are rather under size, and lastly, in those affected with some deviation or deformity. In this condition the oppression is so great sometimes as to produce a state bordering upon suffocation. The patients are always obliged to maintain a nearly vertical position, or to place themselves on their knees upon cushions, with the elbows resting upon other and more elevated cushions, in order, in this way, to obtain a little sleep, or at least repose. Désormeaux, who relates the case of a lady who was deformed and was affected with this species of dyspnœa, adds that she was threatened with suffocation whenever she leaned backwards or quitted the position we have just described. The same author says that the above patient, who always had imperfect respiration, swelled face, and bluish lips, was forced to remain standing during the whole of the labour, which was long and painful, and could not be terminated until the head of the child had been opened and the brain evacuated. Moreover, she died three days after the labour without pain or fever, and seemed to perish by a slow asphyxia. At the autopsy, the lungs were found to have been forced into the superior part of the thorax, to be of compact consistence, of a brownish-red colour, and crepitant in a very small portion only.

The treatment of nervous dyspnœa or that which occurs in the early months of pregnancy, consists in the employment of antispasmodics and sedatives, amongst others the infusion of orange-flowers and linden-flowers, syrup of poppies, cherry laurel water, and the medicinal hydrocyanic acid; camphor, assafœtida, musk, and castor in mixture or pill; lastly, sulphate of quinine combined with opium, should the difficulty of respiration affect an intermittent type.

The *plethoric* dyspnœa is to be treated by bleeding, to the amount generally of eight or ten ounces, which is sufficient to relieve the lungs and facilitate the entrance of the quantity of air necessary for respiration. There should be prescribed, at the same time, a more severe regimen, and some laxatives and enemata in order to keep the bowels soluble.

To oppose the last species of dyspnœa, the patient must be recommended to take a position most favourable to respiration, which consists in maintaining a nearly erect posture, with the head and chest sustained by means of cushions disposed in the way found to be most agreeable. A bleeding from the arm is generally employed for the purpose of preventing vertigo and a sense of suffocation, and to relieve as much as possible the pulmonary vessels. Finally, the patient should be subjected to a mild diet, she should be allowed small quantities only of food at each meal, in order to avoid distension of the stomach, while substances difficult of digestion, especially those which produce extrication of gases, must be forbidden. The size of

the abdomen is to be diminished as much as possible, by means of enemata and laxative drinks, and all articles of clothing that compress the thorax and abdomen, and prevent their expansion during respiration, ought to be removed. It is proper to remark, also, that if the dyspnœa depend upon an organic affection of the lungs existing before conception, but which has been aggravated by gestation, the treatment must be directed towards the affection which is the cause of it, remembering, however, its complication with the pregnant state.

[I have met with many cases of dyspnœa in pregnant females; and except in those instances where the oppression of the chest is derived from the pressure against the diaphragm from below, I think they are always worthy of a close and most careful scrutiny—since it is dangerous to permit the difficulty to continue, when it is possible to obviate it, under the very loose general idea of its being one of the diseases of pregnancy.

The pressure of the gravid womb upon the abdominal aorta, and the branches of the cœliac and the mesenteric arteries, as well as its intrusive interference with the descent of the diaphragm, are all highly provocative of excessive determination of blood to the head, the superior extremities and the thoracic viscera. Hence we very frequently meet with the cephalalgia, the convulsion, the mania, and the altered temper of the pregnant female, in dependence mainly on simple excessive determination of blood to the superior parts of the body, from pressure on the aorta. But the same disposition also exists as to the pulmonary circulation, and is shown in the engagements, the dyspnœa, and the altered colour of the cheeks, lips and fauces, in the cough, and mucous rale, in the palpitation, and also in the vascular reaction concomitant of such conditions.

Where a patient under gestation makes complaints on the subject of her respiration, it requires but little time carefully to auscult every part of the lungs and the heart, and pericardium. This, and the test of the capacity of the lungs for air, obtained by causing the patient to make a forced inspiration, may clear up the diagnosis and leave us assured that nothing is to be feared; or direct us to the prosecution of vigorous measures for the cure. I have for the most part found that a patient attacked with inflammation of the lungs, is not very easily cured, if, in an advanced stage of pregnancy, until after her delivery shall have taken place. Upon the withdrawal of the pressure and the distension, the restoration of a free excursus to the blood enables the disordered lung to recover rapidly, provided no mischief has been done to the organ in the mean time. But as there is great danger that such mischief may be done, a patient so complaining ought to be made aware of the risk, and put at once under a regular clinical treatment.

Many women complain of a difficult respiration in pregnancy, and of violent palpitation and unusual disorder of the heart, in consequence of their having become anæmic during the last months or weeks of the gestation.

I am quite certain that pregnancy is a not unfrequent cause of the anæmic

malady—and where the anæmia proceeds to an aggravated state, the consequences are often most distressing—for during the existence of a great diminution of the crasis of the blood, the patient is liable to troublesome and even very dangerous effusions of serum into the chest, the pericardium and the abdomen. A mistake on the part of the practitioner would be very unfortunate for the patient, by misleading him in the method of treatment. Let him therefore carefully discriminate betwixt the effects of a pure inflammation, and those often similar ones that arise out of the feeble and irregular innervation proceeding from a state of the blood, in which that fluid has lost a large portion of its power to excite the brain and nervous system, leaving them subject to the utmost incompetency to fulfil their office. Where the blood has become imperfect by the loss of a quota of its discs or its albumen, it is not possible that the brain and nerves should steadily and properly innervate the heart—the respiratory organs, nor indeed any portion of the organisms.—M.]

## OF COUGH.

The cough, like the dyspnœa which attacks women in the early months of pregnancy, depends upon a nervous condition which is the result of the sympathetic influence of the womb upon the pulmonary organs. The nervous cough, though the least dangerous of all, must be distinguished from that which is the result of a bronchitis or of a pulmonary congestion, for the therapeutical means which it requires are totally different. In the nervous cough, there is no expectoration, and the cough is always dry, unless complicated by a cold; the catarrhal cough produced by cold, is on the contrary accompanied by mucous expectoration, coryza, often by soreness of the throat, by dull pain in the head, and by a slight rigor in the evening with or without fever; none of these symptoms occur in the nervous cough.

That which is produced by a pulmonary engorgement generally appears towards the end of the pregnancy. Its exciting cause is the augmentation of size of the uterus, which presses up the diaphragm and intestines, and, by consequence, lessens the thoracic cavity. Under these circumstances, the pulse of the patient is hard and full, the countenance red and animated; she complains of headache, of uneasiness and oppression, especially after eating, and some are subject to nasal or bronchial hæmorrhages.

In general, be the character and cause of the cough what they may, it is a symptom which ought to command the attention of the physician, because the violent shocks which it imparts to the abdominal viscera may become the causes of uterine hæmorrhage and abortion, or be extremely inconvenient, at least in some cases, by exciting sudden and involuntary expulsion of the urine. Moreover, the cough, whose violence is generally increased by the phenomena of gestation, may, by its prolongation, determine pulmonary inflammation, or have the inconvenience at least of increasing in severity after

the labour, which does not generally occur in regard to the other complications of pregnancy.

The treatment of the nervous cough consists in the employment of opiates when it is slight, and of bleeding when violent and continued. To these means may be added tinctures, mucilaginous drinks, the bechic infusions of violets, calf's foot, hyssop, wild poppy or borage, sweetened with syrup of gum, of erysimum or maiden-hair, sinapisms to the limbs, laxative enemata, and, lastly, frictions with Autenrieth's antimonial ointment upon the sternum. The same means, and particularly the bleeding, may be opposed to the cough which depends upon a pulmonary engorgement: the same is true of the catarrhal cough, which less frequently requires sanguine emissions, and which is generally treated successfully, when chronic, by means of a tisan of Iceland moss, taken with a little milk or sweetened with syrup of maiden-hair or erysimum.

## OF HÆMORRHAGES OCCURRING DURING PREGNANCY.

### Uterine Hæmorrhages.

Amongst the losses of blood to which pregnant women are subject, there is none more frequent and dangerous than that from the uterus. This hæmorrhage, whose predisposing causes are all the circumstances that we assigned to the other metrorrhagias independent of pregnancy, may be occasioned by any of the causes capable of producing abortion, amongst others, by the criminal manœuvres which some persons make use of, by means of puncturing instruments introduced into the uterus, or by making use of violent emetics and purgatives, by emmenagogues, hip-baths, bleedings, leeches, etc. Blows upon the abdomen; falls on the feet, knees or breech; violent movements of the limbs, forced walking, dancing; abuse of coïtus, and all efforts and sudden or violent shocks may also give rise to it. The uterine hæmorrhage of pregnant women is particularly caused by separation of the fœtal membranes from the internal surface of the womb, and by vicious insertion of the placenta over the cervix uteri. The hæmorrhage due to this cause generally appears without precursory symptoms from the sixth to the seventh months of pregnancy, because about this period the cervix uteri begins to diminish in length and to enlarge its orifice.

This metrorrhagia may be apparent or concealed, that is to say, external or internal. In the former case, it is recognized by the escape from the vulva of a larger or smaller quantity of blood; and, unless it depend on anormal insertion of the placenta, is preceded by dull pain, by weight in the hypogastrium, and by dragging in the loins and groins. In the second case, the diagnosis is more difficult; for the blood may be retained by occlusion of the cervix, by adhesions which confine the liquid behind the fœtal membranes, and, lastly, by the placenta, which, separated at the centre and not at the edges, forms a sort of sac in which the sanguine effusion accumulates. Under these circumstances, the hæmorrhage can be

suspected only from the internal phenomena showing congestion of the uterus, such as increased size of the abdomen and deep-seated pains in the pelvis and loins, to which after a time are added paleness of the face, faintness, feeble pulse and vision, tinnitus aurium, general sensation of coldness and often syncope. Hæmorrhages of this kind take place without being preceded by prodromic symptoms; they are at first slight and of short duration, but, after a longer or shorter period of time, they reappear in larger and larger quantity and last longer. The finger carried into the os uteri, finds it filled with the thick, unequal and spongy substance of the placenta, always easy to distinguish from the clots of blood which may be detained there, and which are always of softer consistence and smoother surface; lastly, by means of ballottement, we discover that there is some intermediate body, more or less thick, between the finger and the fœtus. Moreover, the successive hæmorrhages exhaust the patient, render the muscles œdematous, and soon produce whiteness of the lips and puffiness of the face, whose colour becomes yellow and dull like wax.

Metrorrhagia occurring in the early months of pregnancy, is generally less dangerous for the female than for the fœtus, for it is very often followed by abortion. In the latter months, on the contrary, the mother runs more risk than the child. Internal hæmorrhage is always more dangerous than external; just as the loss of blood, which occurs from the placenta or cord, exposes the fœtus to greater danger than the woman; the contrary is true where it is due to an uterine exhalation. It is proper to remark, also, that in hæmorrhage depending upon a plethoric condition, the flow of blood, by destroying the molimen, arrests the disorder itself. It thus becomes its principal remedy.

The *treatment* of uterine hæmorrhages of small amount, and which have occurred accidentally in the early months of pregnancy, consists in moderating the general circulation and diminishing the afflux of blood towards the uterus. This double indication is answered by placing the woman in a horizontal position on a hard bed, and adjusting the pelvis in such a way that it shall be higher than the rest of the body. Fresh and pure air, repose of the body and mind, rigorous diet, and cold acidulated drinks are indispensable. If the patient be strong and of sanguine constitution, we may resort to bleeding, taking care to make a very small orifice in the vein, so that the blood may flow as long as possible. The same result might be obtained by applying the finger to the wound, and then removing it from time to time in order to let the blood escape. If the hæmorrhage should continue, in spite of these means, we must resort to refrigerants and to applications of compresses, wet with cold water or oxycrate, to the abdomen and inside of the thighs. We might employ, likewise, the large dry cups under the breasts, mustard hand-baths, and mustard poultices between the shoulders, according to the advice of M. Velpeau. There should be prescribed, also, especially for feeble women, a sedative mixture, composed of lettuce water, extract of rhatany and syrup of comfrey,

which ought to be substituted by syrup of opium and ether if the patient be very nervous and irritable.

Should the hæmorrhage persist and threaten to prove fatal, notwithstanding the employment of these means, which are proper principally in the early months, the only chance of saving the patient that remains, is to empty the uterus. The moment which calls for this proceeding, is that when the constantly increasing paleness and debility, the small size of the pulse and faintings, indicate a pressing danger and one beyond the other resources of the Art. But as the womb is often not sufficiently developed to allow of the introduction of the hand into its cavity, the membranes ought not to be ruptured. It is then only that the tampon is useful, by permitting the blood to accumulate in the uterus, the os uteri to be dilated and softened, the ovum to detach itself, favouring in this way the expulsion of the fœtus. If the sanguine discharge persist, notwithstanding the presence of the tampon, we must endeavour to bring on contractions of the uterus by means of irritating enemata, and act afterwards as in ordinary cases of abortion. Lastly, if, on the contrary, the dilatation and thinning of the cervix permit, first one, then two, and then three fingers must be carried into the os uteri, and, as soon as the bag of waters is formed, without waiting for complete dilatation, the membranes are to be perforated and the expulsion of the fœtus to be trusted to nature, assisted by means of titillations of the os uteri and frictions to the hypogastrium. Should the child be in a bad position, it would be necessary, after the rupture of the membranes, to carry the hand into the uterus, search for the feet, and turn the child. Ergot might often be useful in cases of this kind, to prevent inertia of the uterus, which is to be apprehended after too rapid a delivery.

[In one of the sentences of this paragraph M. Colombat says, that in uterine hæmorrhage, in the pregnant woman, when the cervix is not sufficiently dilated to admit the hand, the tampon becomes useful, and *only then*, (*seulement alors.*)

I am much gratified with the appearance of carefulness with which the author has pronounced this opinion, *seulement alors.* I add this note for the sole purpose of endeavouring to impress the value of this direction more deeply upon the mind of the young practitioner. I have, in another note, given my opinion, that the tampon is a resource of the greatest value in uterine hæmorrhages of the pregnant woman who has not passed much beyond her fourth month; but I have a feeling amounting almost to horror, of the practice of introducing the tampon in an advanced stage of gestation—since when blood is effused from the vessels it can never be reabsorbed by them, and the sooner it is removed from the cavity the better. I disapprove of the tampon even in placenta prævia; and I am glad to find that Robt. Lee, in his beautiful little volume, *Clinical Midwifery*, is of the same opinion.—M.]

The uterine hæmorrhages occurring during labour, generally depend

upon the same causes as the preceding, particularly upon a plethoric condition of the female and on placenta prævia; to these should be added, more or less serious lacerations of the uterus and vagina and rupture of the umbilical cord. Moreover, the hæmorrhages which appear during labour, are so much the less dangerous as this is more advanced, for when the uterus is emptied it generally contracts, and, in this way, the flow of the blood is arrested; the treatment ought to consist, therefore, in the employment of means proper to accelerate delivery. The accoucheur must determine, in these cases, between the ergot, the tampon, the rupture of the membranes, the forceps and version. Hæmorrhage during labour is one of the most dangerous forms of that accident, especially if it depend on inertia of the womb. It may be occasioned, also, by plethora, by vivid emotions, by the presence of the placenta, by a portion of that body or of any other substance in the uterus, by more or less complete inversion of the organ, and, finally, by laceration of the cervix. These hæmorrhages may be either internal or external, like those which appear during pregnancy or labour. We call attention to the fact merely, that internal uterine hæmorrhage is never more frequent or more dangerous than after labour.

The treatment of flooding varies according to the cause which produces it. If it be the placenta, a clot of blood or any other body preventing the contraction of the womb, it must be extracted. — If the hæmorrhage depend upon laceration of the cervix, it may be arrested by means of a tampon of charpie, sprinkled with powdered alum and resin, carried up to the seat of the mischief. Again, bleeding must be used in cases determined by a plethoric state, and the reduction of the womb in those produced by inversion of that organ. Finally, we may join to the other means, especially to the external refrigerants and derivations indicated for the arrest of hæmorrhage during pregnancy, the introduction of a peeled lemon into the cavity of the uterus, and compression of the aorta above the sacro-vertebral angle, either by acting upon the uterus through the walls of the abdomen, by means of a hand carried into the uterus so as to compress the aorta against the vertebral angle, or, lastly, by making the compression above the uterus, by means of the fingers acting through the abdominal parietes. As to hæmorrhages dependent upon inertia of the womb, we refer to the chapter which treats of them. The same applies to the inversion of the organ.

[In the treatment of uterine hæmorrhages, it is of the utmost importance to understand the uses and value of position, as a means of diminishing or suppressing the flooding.

In all floodings at or near the full term of utero-gestation, the woman should lie upon the bed, with the head but slightly raised, while the shoulders are upon the same plane with the rest of the trunk. If the hæmorrhage be an alarming one, it might be that the medical attendant should find a full and bounding pulse, with a decided heat of the skin

and flushing of the face. In such a case he ought, without hesitation, to let blood at the arm, provided the general state of the patient's health would warrant such a proceeding. In some of the cases of uterine hæmorrhage the necessity for using the lancet is as great as that which exists in hæmoptœ or other arterial hæmorrhages. But it will be his duty carefully to discriminate between the cases from *nisus* and those simpler effusions of blood that proceed from an accidental detachment of a portion of the placenta, in which the blood escapes as in a wound, and not by a *nisus hæmorrhagicus*.

It is highly expedient, in all serious cases of uterine hæmorrhage, for the attendant to demand the privilege of Touching, without which I conceive it impossible for him to enjoy the light that should guide his ministry —but let him not resort too frequently to the operation, which is so loudly condemned by Dr. Dewees, as both mischievous and useless; let him acquire the desirable information as fully and completely as possible, and rest satisfied with that until some evident necessity arises for a new research.

A woman flooding should be kept profoundly still: she ought not to be permitted to rise, for the urine or stool—and should be advised to move her arms and lower limbs as little as possible. The apartment ought to be ventilated, whether in winter or summer; and at either season, I am accustomed to open the windows and doors if the danger be imminent. The refrigerant power of cloths wrung out of cold spirit and water, or vinegar and water, is to be availed of. Such napkins, not dripping, but wrung as hard as possible, ought to be applied to the hypogastrium and thighs. All exciting conversation should be suppressed; the attendants should be no more numerous than necessary, and their movements ought to be gentle and considerate, without hurry or appearance of alarm.

Fortunately, in most cases, where the extravasated blood is allowed to flow freely away, not being checked or dammed up in the passage, the flooding mostly ceases as soon as the loss has been sufficient to bring on a slight feeling of faintness; and the check once obtained, the loss is not renewed if the woman lies perfectly still; but is very apt to recommence, if she tosses herself too much on the bed.

Styptic medicines are of very little avail here. Opium is of very great value, and may be given in full doses; but it should never be forgotten, that the hæmorrhage, when the placenta is detached, may never cease until life has escaped along with the last drops, unless the uterine cavity be allowed to contract. And this contraction of the womb is what we can almost always command.

If the membranes are as yet unruptured, let them be broken; so that, upon the escape of the waters, the parietes of the womb may become condensed; in doing which, the bleeding vessels will be constringed, or even

effectually closed to such a degree that from that moment all danger is at an end. This is what is called Louise Bourgeois's method.

Should the flooding, however, continue, after the rupture of the ovum and the discharge of the waters, to such a degree as to endanger the mother's safety, the time will have arrived, or will soon be at hand, to place her in a state of complete security, by emptying the womb—that is, by removing the child. This may be done by what is called Puzos' method, which consists in turning it and delivering it by the feet; or, if the occasion should present, by Levret's method, which consists in delivery by the forceps. As soon as practicable after the child is removed, let the placenta be taken away, when no obstacle is left in the way of those effective contractions, by which the uterine tissue is entirely condensed, its arteries compressed in every dimension, and the orifices as well closed nearly as if shut by the ligature. These are the true and reliable principles on which uterine hæmorrhage ought to be treated—it being understood to be the province of the physician, and his alone, to decide as to the time and method of acting. To trust the gravid womb, under flooding, to the efficacy of a coagulum, is what few practitioners of experience would approve. They all know that the *cure* lies in a contracted and well condensed womb.

It frequently happens, that when a woman has been well and safely delivered, she shall have the uterus well contracted, firm and small in the hypogastrium—and expresses herself as *comfortable*, but within an hour, more or less, she shall suddenly faint away, and be without pulse or motion. In such a case, the hand, when placed upon the hypogaster, finds the womb now raised up almost to the navel—or it may be, that it is but slightly enlarged or expanded again.

Such an occurrence always gives rise to a panic in the lying-in room; and, indeed, there is reason to fear she may never recover, unless proper measures be taken. A direction should be given to open all the windows and doors, no matter what may be the state of the weather. The bed clothes should be lightened. One hand should be pressed upon the expanded uterus, while, without moving the patient and with the least possible delay, the other should be gently passed upwards into the vagina, (the whole hand,) where will be found some 8 or 10 ounces of coagulated blood, which should be turned out by a proper motion of the fingers—after which, while by a reasonable pressure and frictions or grasping manœuvre with the other hand, the womb is pushed downwards into the strait, the fingers—two or more of them—are conducted within the os uteri; there they will encounter a very firm coagulum, which fills and distends the womb. This clot should be broken up by the points of the fingers, and turned out of the womb into the vagina, and so until the womb is ascertained to be empty and well contracted. When the womb and vagina are perfectly freed from the burden, the danger is over for the present,

and the success ought to be insured by means of a thick compress and binder for the lower belly.

If the woman be weak, some wine, some brandy and water, some volatile alkali or other convenient cordial ought to be administered at once, and a proper nourishment should be prepared as hastily as possible. For a great many years, I have had the custom of prescribing for women very much sunken with flooding, a nutriment prepared as follows:—Take a slice of bread cut thin; pare off the crust; then lay the bread in a soup-plate, and sprinkle it with salt; pour upon it half a pint of boiling milk, and it is ready for use. I think that a few spoonfuls of this diet will afford the lightest, most nutritious and speediest preparation that can be got for such emergencies. It was the custom of Dr. Clarke, of London, to make use of it, and I rarely have ordered any thing else under such circumstances for many years past. The patient likes it, and, so far as I know, it is unobjectionable in every respect.

When a patient has thus been rescued from visible danger, let the medical attendant not leave her bed-side until she is quite safe—for such is the state of the womb after labour in some women, that it will give way and fill two or three times; for, where the contractile power is but feeble, the blood of the lochia coagulates and stops the mouth of the womb like a tampon—whereupon the parietes begin to yield, and the more the vessels bleed, the more rapidly will they bleed, until the cavity becomes enormously distended and the woman faints and dies.

I have repeatedly been compelled to turn out the clots as much as three times in the same patient. If one were very watchful, he should not permit the coagulum to be formed.

The nurses, when they give a napkin to the patient, should tell her that the cloth is for receiving the discharge and not for the purpose of stopping it, and that it should not be jammed close to the genitalia. When the napkins are packed close up to the patient's person, they act as a tampon does; they stop the blood in the vagina, which first fills, and then backs it into the womb.

Where the case has a critical appearance, the surgeon's hand should be insinuated beneath the compress and binder, so as to enable him to touch the uterine globe, and irritate it by pressure and friction, or, at least, inform himself of its actual state and disposition. I have thought fit to offer these remarks as supplementary to those of the author, which I deem to be less copious than is demanded by the importance of the subject.—M.]

## OF HÆMOPTYSIS, HÆMATEMESIS AND EPISTAXIS.

Hæmoptysis, or spitting of blood, is one of the most dangerous complications of the pregnant state. This hæmorrhage, which escapes from the lungs during more or less frequent paroxysms of

cough, is met with particularly in women of sanguine or nervous temperament, and in those who wear very tight clothing. The exciting causes of the affection in pregnant women, are all connected with their condition, because the uterus becomes more voluminous, and, pressing upwards the abdominal viscera and diaphragm, diminishes the capacity of the thorax, whence follow first embarrassment of the pulmonary circulation, and then a cough and rupture of some of the bronchial vessels.

The prodromes of the affection are dry cough and sensation of heat in the chest, which commonly appear towards the fourth and fifth month. There are felt præcordial anxiety, pains about the diaphragm, accompanied by horripilation and coldness of the extremities. Finally, respiration becomes difficult, expectoration of bloody and frothy sputa appears, particularly after eating, and is increased by exercise, by remaining in too warm an atmosphere or in a very warm bed, and by all circumstances capable of exciting the circulation.

The prognosis of the affection is always unfavourable during pregnancy, when before conception, there had been disposition to cough, pain between the shoulders, and especially when the patient has a narrow chest, projecting cheek-bones, hollow temples, and a weak, feeble constitution. In some of the cases, however, hæmoptysis is attended with but little danger; such is that in which it is the result of a slight sanguine exhalation from the bronchial mucous membrane, produced by some disorder of the pulmonary circulation, or by an engorgement or any kind of obstacle to the passage of the blood. Under these circumstances, the sanguinolent sputa, which occur without effort or fever, are small in quantity, do not reappear, and almost always yield to a small bleeding.

To avoid confounding hæmoptysis with hæmatemesis or vomiting of blood, to which pregnant women are much less subject, we need only recollect that in the latter hæmorrhage, the blood which comes from the stomach is black, grumous, often mixed with the food, mucosities or bile, and generally expelled without cough. The blood which escapes from the lungs is, on the contrary, vermilion in colour, frothy and without mixture with other fluid, and escapes generally in a paroxysm of coughing; it is important, moreover, to ascertain whether the effusion may not depend upon pneumonia or some disease of the heart.

The *treatment* of the affection consists first in the employment of bleeding, to relieve the local plethora; and then in calming the irritation of the lungs by opiates and antispasmodics, amongst others the infusions of orange and linden flowers, sweetened with syrup of poppies. To these means may be added derivatives to the limbs and digestive canal, bechic and astringent drinks, strict diet, and quiet of mind and body; lastly, in some cases, we may have resort to cold applications about the chest, and to iced mineral lemonade. We will add that the treatment of hæmatemesis is the same as that of hæmoptysis, except in case an attack of colic, which the patient sometimes experiences, makes us suppose that there are accu-

mulations of blood in the intestines, when its escape may be assisted by means of emollient enemata and light laxatives.

Epistaxis, or nasal hæmorrhage, occurs in pregnant women more frequently even than hæmoptysis and hæmatemesis; but this hæmorrhage, whose return can seldom be prevented by bleeding, ought to be regarded rather as a useful evacuation than as a real diseaes. For this reason, its prognosis is much less unfavourable than that of the preceding diseases, though like them, it is generally the result of plethora or of obstruction of the pulmonary circulation. In general, the hæmorrage is left to itself, when slight, but should the discharge become too frequent or too abundant, it is proper to arrest it, by placing the patient in a cool air, and by keeping the head elevated and covered with compresses, wet with cold vinegar or sulphuric ether. If these means are insufficient, we must resort to bleeding, to mustard manuluvia, and even to plugging the nasal fossa. We ought to remark that there is a means that has succeeded in our hands in a number of cases, which consists in keeping the arms elevated, and in the application of a cold body between the shoulders.

## DISORDERS OF THE CIRCULATION DURING PREGNANCY.

### Of Sanguine Plethora.

The physiological changes that take place in pregnancy very well explain the derangements of the circulation which accompany that condition. Some physicians have supposed plethora to be almost the sole cause of the diseases of pregnant women; this opinion, become at last a vulgar one, is true, particularly for the hæmorrhages of which we have just spoken, and for other lesions of the circulation of which we are about to treat.

*Plethora*, or anormal increase of blood, occurs mostly in women of strong and sanguine constitution, and particularly in those who were abundantly regulated before pregnancy. The causes which concur to produce plethora are, independent of the menstrual flux, the increased activity of nutrition during gestation, and often a want of exercise and food of too succulent a character.

The phenomena which reveal the state of predominance of blood in pregnant women are fulness and hardness of the pulse, and a sensation of swelling in the limbs, which interferes with their movements. The surface is warm and highly coloured; there is a taste of blood in the mouth; the gums are painful; the eyes, lips and nostrils are red and injected; the veins are swollen and projecting; the head is heavy, with disposition to sleep; there are tinnitus aurium, giddiness, epistaxis, and signs of congestion about the pelvic region.

Though the symptoms of plethora may show themselves at any period of pregnancy, it is generally towards the sixth or seventh month that they are most marked. In some cases, though always inconvenient and even insupportable, they may exist for a long time without greatly deranging the health; but there occur hæmorrhages which sometimes produce the most dangerous consequences.

The prophylactic and therapeutical treatment of plethora consists in the use of a regimen containing but little nourishment, and composed principally of vegetables; in diluent drinks, emollient enemata, laxatives, moderate exercise, and especially in the employment of bleeding. The period of the pregnancy at which blood ought to be taken cannot be determined; in general, bleeding should be employed when it is necessary, and only then. The quantity of blood must be sufficient to remove the plethoric condition, and never so copious as to enfeeble the patient. We ought to remark, however, that a great many physicians are in the habit of bleeding in all cases between the fourth and fifth months of the pregnancy. This method, which is good in some cases, is irrational and injurious in many others. We should abstain from bleeding when the women experience slight symptoms merely of increased activity of hæmatosis.

## OF PALPITATION.

In the pregnant state, the heart is sometimes agitated with palpitations, that is to say, with tumultuous movements and with stronger impulse than ordinary. Nervous women are more subject to them than others; yet those of robust and plethoric temperament are likewise exposed to them; but in this condition the disordered action of the heart is the result of plethora. The affection is recognized by the violence and irregularity of the pulsations of the heart, which are sometimes so strong as to arouse the patients suddenly from sleep. The heart, which strikes against the parietes of the thorax with great force, suspends its palpitations at irregular intervals, and follows the movements of the pulse, which are unequal and intermittent.

The cause of the palpitations depends generally upon a nervous condition and sympathetic irritation of the uterus; it may be connected also with plethora, and in some cases, perhaps, with the pressure exerted upon the abdominal vessels by the gestative organ whose volume is much increased. We must confess, however, that the intermissions of the symptoms and their disappearance, or at least diminution, towards the approach of labour, when the womb has acquired a greater development, should throw some doubts upon the last cause we mentioned.

In general, the palpitations of pregnant women constitute less a disease than a painful and troublesome inconvenience, from which they ought to be relieved.

When the affection is of a nervous character, it is treated by antispasmodics, opium, ether, assafœtida, syrup of asparagus shoots, cherry-laurel water, tincture or powder of digitalis, syrup of lactucarium, and lastly, by the medicinal prussic acid, and even by bleeding. To these means are added baths, demulcent enemata, and moderate exercise in the open air. If the disorder of the circulation occurs in a strong and sanguine female, and seems to be connected with plethora, it is to be treated by bleeding and suitable regimen. Care should be taken, moreover, to advise the patient to sleep with the

head elevated, to eat moderately, especially at night, and to abstain from wine, coffee, liquors and all exciting articles.

[In a note at page 608, I have expressed an opinion as to the importance of making out a correct diagnosis of the cases of palpitation, and have said that pregnancy is for some constitutions a cause of anæmia. Let a careful discrimination be made, then, between the cases of palpitation arising from slow inflammation of the pericardium, and such as spring from a similar affection of the endocardium, and those that proceed from an anæmic state. The latter are exceedingly distressing and dangerous, yet not so much so as the former, for they recover after the termination of the pregnancy, while the former are often followed by violent aggravation of the distress in the post-puerperal condition. Where the endocarditis exists during the labour, the process of parturition, which generally, and in this case almost inevitably, provokes a high degree of vascular excitement, is sure to aggravate the malady of the heart, and we have then the most frightful hurry and irregularity of the pulse;—but such a state of disorder of the vascular circulation is to the last degree hazardous for the puerperal or lying-in woman. I have had occasion to observe not a few such instances. In one of them, the lady, who had long been subject to disorder arising from attacks of endocarditis, got very well through her labour, and continued to be pretty well for three or four days—when she was suddenly seized after breakfast with palpitation of the heart, which soon made her feel and look so ill that I was sent for. I found her pale and feeble, and without power to move, for upon the least attempt to change her position, (she was lying on the back,) she appeared ready to expire. I could by no means count the pulse; it was so rapid as to go far beyond my power to count it by the second-hand of my watch. I can with considerable accuracy count the pulse at 180 in the minute—and I judged, after much reflection, that the heart beat at least 240 strokes per minute. Thus it continued to do from half-past eight in the morning until near eight in the evening—more than eleven hours. Now her pulse ought to have amounted to 46,200 pulsations of the heart in the eleven hours, but the real number of beats was 158,400, which is 112,200 beats more than natural—more than are required for the wants of the healthy constitution. It is easier to imagine than to describe the frightful fatigue of this lady during all those eleven hours—in which death seemed to be close at hand, for there was the greatest probability that the heart would cease to beat altogether, unless some measures could be adopted to arrest its wild career. There was no extra heat of the body—no delirium—but, on the contrary, the temperature was nearly natural, and the mind calm—the countenance clothed with a melancholy and distressed expression, which excited the greatest sympathy of the beholders. The respiration was quick and very short. The impulse of the heart upon auscultation was *neat* and clear, and there was not the least intercurrence of

the first and second sounds. I was convinced that no effusion existed—her complaint, in a scarce audible voice, was of excessive fatigue about the breast, and the greatest debility. My desire was to take blood from the arm, supposing that I might thus affect the sources of her innervation, so as to arrest the flight of the pulse. All the other remedies, in the shape of antispasmodics, counter-irritants, &c., &c., which I persevered to apply, completely failed; and such was the condition of the circulation that I could not venture to open a vessel in the arm, for I felt sure that a fainting fit would terminate her existence. The heart was so exhausted, that had she fainted badly, I conceived nothing would be able to restore its full motion again. Near eight o'clock in the evening, I told her friends that I should open the vein, but under the greatest apprehension she might faint and die, but convinced of the necessity of doing it in order to prevent an otherwise fatal termination. I accordingly had a strong light thrown upon her face, in order to be able to detect the first symptoms of a change in the innervation about to be produced—I being quite sure, that under the circumstances, the pulse would not be a safe guide, for I expected that when it should fall, it would give way instantly. The vein bled well, and I had not to take more than four ounces before I discovered a change of the expression about the mouth, when she admitted also that she was a little sick. Upon binding up the arm, I took the wrist, and found the rapidity undiminished. While feeling the pulse, it suddenly stopped, and the head was rotated to the right side, as if in spasm; she uttered a prolonged groan, and I supposed her dead; but, after a suspension of several seconds, the heart resumed its rapid flight for some ten or twenty seconds, then stopped again, so long that I thought it would never beat—it then fluttered for a moment—and from that moment her pulse was as gentle, and regular, and orderly as if in the finest health. She recovered afterwards, having subsequently complained only of debility. During these eleven hours I scarcely left her bed-side, and have not had, in a long course of practice, occasion to pass a day of more thrilling interest in relation to one to whom I had no ties other than those of the medical adviser to his patient. Nor can I now well conceive of a case more exciting than one in which an organ, the very centre and source of motion and life, was in so extraordinary a predicament. Let the reader imagine the organic fatigue, if such an expression be allowable, which the heart must have endured, under 112,200 extra-pulsations in that space of time.—M.]

## OF SYNCOPE.

If inordinate contractions of the heart constitute one of the accidents of the pregnant state, the same is true of the suspension of the contractions of the organ, which may, in pregnant women, occasion syncope: this condition consists in a complete and generally sudden loss of sensation and motion, with suspension of respiration. This sort of temporary death, which generally lasts only four or five

minutes, recurs periodically in certain women, once a month, once a week, once in every two or three days, and even oftener. During the attack the countenance and skin, as well as the adnata of the eyes, the lips and mouth, lose their colour, and resemble the paleness of death; the senses are paralyzed, (*suspended*, M.,) the sensations nullified, and there is a complete loss of consciousness. The attacks come on with yawning, tinnitus of the ears, and a dull pain at the epigastrium; they terminate by an insensible return of the respiration and pulse, and frequently by throwing up the contents of the stomach.

The *predisponent causes* of syncope in pregnant women depend on a disturbing force, connected with the pregnant state, which influences all the functions of the body. The determining causes are sometimes found to be the sudden brisk motions of the fœtus, a vertical posture, a kneeling posture, particularly one long continued, the sight of certain objects, strong emotions, a sudden sound, the odour of certain sorts of plants, or certain substances; and, lastly, a state of plethora or one of anæmia, may likewise bring on attacks of syncope in pregnant women.

Syncope is generally a more serious affair as regards the fœtus than as regards the mother, whose life is less endangered by a somewhat protracted fainting fit than is that of the infant.

The treatment of this accident of pregnancy consists in recalling the functions of life, chiefly those of the respiration and circulation. We generally succeed very readily in effecting this result by placing the woman in a horizontal position, by relieving her of those parts of her dress that might obstruct the motions of her breast, abdomen, neck and limbs; by making her inhale strong odours, such as the odour of liquid ammonia, pure acetic acid, or burnt feathers, and, further, by making frictions on the region of the heart, either dry or with cloths wrung out of brandy, or cologne or balm water. Care should likewise be taken to expose her to fresh air, to sprinkle cold water on the face, and to apply sinapisms to the arms and legs, which may also be wrapped in cloths wrung out of very warm water. When the patient recovers her consciousness, she should swallow a portion of Garus's Elixir, or a little wine, or any other alcoholic liquor diluted with water.

For the purpose of preventing as far as possible a return of the attack, the woman, if plethoric, should be bled, take moderate exercise, and make use of some sort of antispasmodic medicine.

## OF VARICES.

Among the complications of pregnancy none is met with more frequently than a varicose state of the veins. For the most part, they begin to grow towards the close of the pregnancy, and affect most especially the lower extremities, and particularly the saphena vein; they are, however, found to invade all the superficial branches of the legs and thighs, the labia, vagina and cervix uteri. Pregnant women have been seen even, in whom all the veins were swollen

and knotty without excepting even those of the upper extremities, exhibiting, indeed, a general varicose diathesis. We should remark, however, that it mostly happens that one side is more affected than the other, probably because the womb presses most upon that side.

Wherever they happen to be formed, these varices appear under the form of small lumps, like a string of beads, or like a bunch of leeches twisted together, or they look like oblong, round, uneven, indolent knots, which generally disappear under pressure, and return upon withdrawing the pressure, diminishing by rest in bed, and increasing upon resuming a vertical posture: they are without any pulsation, and generally exhibit a sort of arborescent appearance.

Although the rupture of a small varix is, in most cases, a slight accident, readily cured by compression, it does happen that such an accident becomes promptly fatal, especially where there is a varicose diathesis, and where the rupture occurs in a large vessel, such as the internal iliac or superior cava.

The causes of this dilatation of the veins may depend upon a natural or accidental weakness of the vessels, and a certain disposition in them to allow themselves to be easily distended with the blood, whose circulation is obstructed by the pressure of the womb upon the iliac veins.

In order to prevent this unmeasured distension of the veins, and the rupture of the tumour thus formed, we should recommend the patient to keep a soluble state of the bowels; a horizontal posture, rest, and, lastly, compression of the limbs by means of the roller or a laced stocking, which should be applied in the morning before rising from bed, because the veins are then less distended with blood. In plethoric women bleeding is one of the useful remedies to which recourse ought to be had. The resources of surgery have never been emyloyed in varix in the pregnant female, for they always disappear after the lying-in, except in cases where they have been renewed by numerous and rapidly succeeding pregnancies.

Varices of the cervix uteri may interfere with labour, as they are liable to burst during the throes, and give rise to a considerable hæmorrhage. We should endeavour to prevent their rupture by sustaining and gently repressing them with the ends of the fingers. In case, notwithstanding these precautions, one of the varices should give way, we ought to tampon the orifice of it with linen soaked in alum water or any other suitable styptic liquor.

[M. Colombat has omitted to notice an important item in the consideration of the varices of pregnant women. They are often, it is true, only troublesome during the pregnancy, and that evil may be, in general, very readily obviated by the use of the roller and the other measures recommended by the author.

I fear, however, that an insufficient degree of attention is paid to the more severe and extensive samples of varix, both by the patient and the physician. In some such instances I have had to contend with dangerous crural phlebitis coming on after labour, and clearly taking its rise in the already dis-

eased and distended state of the veins of the leg; and I had the misfortune, about two years since, to witness the loss of one of my patients, in whom the enormous varicose veins of the right leg and thigh were attacked, after her confinement, with phlebitis terminating in the production of pus and all the distressing consequences of the pyogenic fever. I merely desire, at this point, to call the attention of the reader to the propriety of taking all due precautions against the development of that dangerous malady, after the delivery of the patient, who is so unfortunate as to have very bad varices of the legs.—M.]

## OF HÆMORRHOIDS.

The occurrence of hæmorrhoids in the pregnant woman has generally been assigned to the same causes that give rise to varix of the lower extremities. It is at least certain that costiveness, to which women with child are very subject, is one of the most common and undeniable causes of piles. We may, also, it is true, depend on the volume of the womb, whose pressure upon the veins within the pelvis, obstructs the circulation and provokes an engorgement of the hæmorrhoidal vessels. Be this as it may, the disorder in question may be met with at any period of gestation, rarely in the early months, more frequently towards the middle, and still more frequently near the term, especially in women of a costive habit.

Where the hæmorrhoidal tumours are indolent, and not very painful, they constitute a mere inconvenience, which the female submits to in silence without consulting her physician; but in certain cases they cause an active inflammation, with very acute pains, a great obstruction; inability to sit, tenesmus, fruitless efforts at stool, and, in some instances, even a prolapsus of the rectum; inflammation, suppuration and ulceration of the hæmorrhoidal mass; and even uterine contraction and abortion. To these symptoms should be added dyspnœa, insomnia, restlessness, headache and a fever of greater or less violence.

From the above sketch, it may be perceived that the consequences of hæmorrhoidal attacks may be very serious; yet these tumours do not, in general, prove injurious in pregnancy, particularly if they bleed, and the bleeding be not too profuse. On the other hand, where the loss of blood is abundant and long-continued, exhaustion of the mother and the death of the child may be the consequences.

Where the hæmorrhoidal tumours are red, tense, painful and inflamed, it is customary to order the bath; emollient and narcotic fomentations; oleaginous injections, suppositories of *beurre de cacao*, opiated cerate, unguent, populeum, a cooling regimen, and bleeding at the arm, where the woman is plethoric, and the turgescence and pain considerable. When the piles are internal ones and inflamed, warm milk, with a few drops of laudanum, may be injected into the rectum; and the bowels can be kept free by gentle laxatives and emol-

lient enemata. Should the hæmorrhoidal tumours bleed moderately, the discharge ought not to be interfered with; but in case it should become too profuse, we ought to endeavour to arrest, or at least to moderate it by using astringent fomentations, made with decoction of pomegranate rind, bistort root or nut-galls, to which is added a little alum or sugar of lead: in fine, for the more serious cases the rectum may be plugged with a roll of linen, introduced into the bowel. It should be remembered, however, that the presence of the tampon, which is always distressing, may provoke the womb to abortion; and that the measure, which is never to be resorted to but in extreme cases, might allow an accumulation of blood to take place within the bowel, and thus fail of arresting an internal hæmorrhage, which, although it no longer appears to be discharged from the bowel, might still prove sufficiently profuse to deprive the patient of life.

## OF ŒDEMA.

Most of the modern medical authorities attribute the œdema of pregnant women to a fault of the venous and lymphatic systems; we, also, have not hesitated to class it among those lesions of the circulatory apparatus that are dependent upon pressure on the vessels. Indeed, it is observed that the disorder under consideration is mostly found to occur in the latter stages of pregnancy, that is to say, at a time when the volume of the womb is greatest; that it generally affects the lower extremities, especially in true pregnancies; and farther, that it diminishes while the woman maintains a recumbent posture, and increases by standing up or walking. Be this as it may, women of a feeble and lymphatic habit of body, those whose vascular system has little vigour, or who have a narrow pelvis, are most exposed to attacks of œdema of the lower limbs, a disorder which first manifests itself in the feet and legs, and then extends upwards on the thighs, and even to the vulva, the groins and the parietes of the abdomen.

Œdema sometimes consists in a diffuse indolent whitish swelling, which pits upon pressure, increases towards night and diminishes towards morning; sometimes, again, it is a more or less extensive engorgement, accompanied with pain, heat, and, occasionally, redness, and a sort of elasticity which prevents it from retaining the impression of the finger, or pitting.

Œdema, arising from a state of pregnancy, is mostly not at all dangerous, and disappears spontaneously after the lying-in. Where it is not extensive, it gives rise merely to an uneasy sensation and a troublesome feeling of weight. When it extends to the thighs and genitalia, it not only interferes with walking and sitting down, and occasions much pain and uneasiness, but when the skin becomes excessively distended, it is liable to inflame and be covered with erysipelatous patches. Cases, indeed, have been met with, where the subcutaneous cellular tela has been affected with inflammation terminating in gangrene of the skin. Moreover, a simple œdematous swelling may become sufficiently extensive to obstruct the move-

ments of the body, interfere with the respiration, and even offer serious obstacles in labour. It ought, however, to be understood that œdema, how considerable soever it may become, is generally not a serious affection for pregnant women. Delamotte assures us that he never saw a female perish from these swellings, even the most extensive of them, and that those who do suffer from them are ordinarily not troubled with vomiting.

[It may be very true that Delamotte did not see fatalities as a direct result of œdema gravidarum, but, in his great experience, it is probable that not a few cases of severe malady, such as eclampsia, for example, might have been more or less intimately connected with œdema of the limbs.—M.]

Should the œdema be accompanied with symptoms of plethora, and the tumefaction be red and elastic, venesection is the most appropriate remedy, and should be prescribed conjointly with mild purgative and diuretic medicines, which alone ought to be ordered when no plethora exists, and where the œdema consists in a mere infiltration of serosity into the cellular tela. In such circumstances we might also, with propriety, advise the patient to use dry friction, aromatic lotions, a gentle compression by a roller bandage, and the maintenance of a horizontal posture. Should this situation, however, give rise to a considerable degree of oppression, it would be better for the patient to remain seated in an arm chair, and especially on a sofa. In fine, should these proceedings prove to be inefficacious, and the swelling become very extensive, slight punctures may be made with the point of a lancet, in the legs, and then followed by a blister applied, according to Levret's advice, on the space betwixt the thigh and the labium pudendi. In all cases, the bowels should be kept soluble, by injections and gentle purgatives; the dresses should be warm, and the woman should be sure to wear flannel; and, to conclude, let the strength, as to feeble, lymphatic persons, be sustained by a good diet and a glass of good Bordeaux claret at meal times.

[Notwithstanding the favourable prognosis in this case, offered by Delamotte, and confirmed by M. Colombat, I do not think that the younger practitioner ought to found thereon a careless confidence as to the safety of either the patient or fœtus. It is true that a simple œdema may not offer the least obstruction to the escape of the fœtus in labour; and it is in fact found that many women, very considerably infiltrated, do pass through the several stages of parturition with the greatest facility; but I wish to warn he younger portion of our readers, that if the patient be in a first pregnancy, and if the tumour of the limbs and body be of the elastic sort mentioned by M. Colombat, the medical attendant should take good heed as to the circulation, the innervation, the state of the patient's temper, her sleep, &c., for she ought to be esteemed as highly liable to attacks of eclampsia. In a woman who has already borne several children, I deem the danger of eclampsia to be less imminent, under these circumstances, in consequence of the greater laxity of fibre which, in such persons, admits of freer distension of

the cellular tissue, and that, without too great a development of nervous irritation and susceptibility. I offer these remarks additional to M. Colombat's, under a sense of the deeply distressing and alarming cases of puerperal convulsions that I have met with in my own practice and in consultations; cases which I deemed clearly traceable to a close connection with an excessive distension of the cellular tela and skin, arising from the œdema or anasarca of pregnant women. I know not why the mere infiltration of the cellular tissue should produce so great a tendency to attacks of puerperal convulsion, but I feel very confident that the primiparous female, who is affected with the more firm and elastic sort of œdema, is very prone to suffer in this way. The pressure on the veins and absorbents producing œdema, coincides with pressure on the aorta producing determination to the head.—M.]

## OF CEPHALALGIA AND VERTIGO.

Affections of the brain occurring during pregnancy.

Cephalalgia and vertigo are frequently found to complicate pregnancy, in consequence of a state of nervous excitement or of a plethoric condition. The first-named variety of cephalalgia is principally to be observed in women of a delicate habit of body, and may arise under the influence of vivid impressions on the mind, such as grief, disappointment, rage, &c. The second, which is common in women of a sanguine temperament and robust constitution, appears to depend upon whatsoever tends to augment the nutritive materials and the abundance of the hæmatosis.

There is a third species of cephalalgia; it is that which depends on the state of the stomach, or on some gastric disorder, evinced by bitterness of the mouth, a whitish or yellowish induitus of the tongue, and a more or less decided want of appetite. In these cases the headache is lancinating, and increased after each meal; but there are intervals of calm between the attacks.

Those pains that depend upon nervous irritation, are met with chiefly in the earlier months of gestation, and grow less and less severe as pregnancy approaches towards the full term. Furthermore, where the headache is connected with a state of plethora, it does not commonly come on before the fourth month, and it then begins with a pain above the brows, and a sort of stupor and heaviness of the head, accompanied with pain in moving the eyelids and eyes, which seem to be more sparkling than usual, and which, besides, are not at ease in their orbits.

The treatment of these different kinds of pain ought to vary according to the causes that give rise to them. To the nervous headaches, for example, we should oppose the sedative, soothing articles of the materia medica, antispasmodics, baths, enemata: the *thridace;* opium and camphor, administered internally; the inspiration of ether, of Cologne water, and *eau des carmes;* and, lastly, rest and sleep. A plethoric headache may be advantageously met by venesection, and especially by arteriotomy. The effects of these measures may be seconded by a mild regimen, more especially a vegetable

one, by diluting drinks, and the employment of injections and laxatives, for the purpose of keeping the bowels in a soluble state. In fine, we should direct the use of lemonades, vegetable broths, saline cathartics, Seidlitz or Pulna water, and, in some cases, ipecacuanha, with the design to combat the cephalalgia and vertigo, seemingly dependent upon a disordered stomach.

[Let the physician be aware of the danger of headache in women in advanced stages of gestation. A severe headache, and especially one accompanied with a sense of weight on the crown, or a severe pain that can be covered with the thumb, is but one step removed from eclampsia. Such a person ought to be bled freely at the arm, if it be possible to do so without flying in the very face of powerful counter-indications. I have not spared the lancet in many such; but I may confidently assert that where I have done so, I have had cause most bitterly to regret it.

A severe *headache* in a woman advanced in pregnancy, should be taken as the sign that she ought to be let blood—almost, I was about to add, without inquiring of the pulse.—M.]

## INSOMNIA, OR AGRYPNIA.

Sleeplessness is one of the most distressing affections to which the pregnant female is liable. Women of a nervous and delicate constitution are much more liable to such an affection than the plethoric sort, who, on the contrary, are sometimes disposed to sleep or be drowsy all the time.

The insomnia that occurs in pregnancy is most generally a neurosis, which depends upon cerebral exaltation arising from sympathy with the uterine system. In some instances, however, both the sleeplessness and the drowsiness of pregnant women are owing to a plethoric condition, evinced by the high colour of the face and eyes, the general agitation of the system, and the strength and hardness of the pulse.

In slight cases of insomnia, the treatment consists in moderate exercise of the body, a soothing regimen, anodyne enemata, syrup of thridace, but where the agitation is greatly prolonged, it should be met by opiate-emulsions, syrup of diacodium, syrup of white poppies, and particularly by acetate of morphia, in doses of a centigramme for each potion. Should the patient be constipated, the bowels should be freed, by enemata or laxatives, and tonics combined with sedatives and antispasmodics are adapted for women who are debilitated, and who have a naturally feeble constitution.

For those cases of insomnia that are coincident with a plethoric habit of body we should direct a venesection, which is, under such circumstances, the first and the best of sedatives.

[Not merely to cure the vigil, but, what is far more important, to ward off the attack of convulsion or apoplexy, which should be held as a threatened, and even as an imminent danger for persons in whom the insomnia has arisen to a considerable height.—M.]

The beneficial influence of a blood-letting may be powerfully seconded by the use of the bath, of diluent drinks, and by almond emulsions, and lemonade.

### LESIONS OF THE SIGHT, THE HEARING, THE SMELL, &c.

The various ophthalmic neuroses, as amaurosis, diplopia, nyctalopia, hemeralopia, and sparkling lights in the eyes, are often observed to affect pregnant women. These disorders, that are particularly prevalent in nervous women, may be continued, or may cease for awhile, and then reappear, and afterwards cease altogether, which for the most part happens after the accouchement. Thus, there are women who, after being for several months affected with amaurosis, recover their sight as soon as they are confined. The same may be said as to all the disorders of vision, such as those in which objects are seen double, or under changes of shape or colour, or where they are magnified or lessened in size.

Sometimes these ocular neuroses come on towards the close of gestation, and especially is it the case in plethoric persons; they are then caused by a sanguine congestion of the head. In others, they depend upon a nervous cause, and an extreme degree of sensibility of the nerves of the eye, particularly of the retina. Neuroses of this sort come on without pain, redness or fulness of the eyes. The former kind, such as are complicated with sanguine congestion, are attended with uneasiness, pain, redness, swelling of the eyes, turgescence of the features, stupor or drowsiness. Furthermore, in both these kinds of ophthalmic neuroses, there is blindness more or less complete, or perhaps simple flashings of light in the eyes, and optical illusions, which create imaginary objects, or change the shape, size, and volume of real ones In some instances, likewise, the engorgement of the eyes may merely produce an ecchymosis, or a real inflammation of the conjunctiva, as in the instances reported by Bartholin and several other authorities.

The *treatment* of these affections differs according to their several causes and the constitution of the individual. Ophthalmic neuroses of a nervous origin require to be corrected by antispasmodics, opiates and tonics, such as pills of cynogloss, syrup of valerian, and cinchona, or these two last-named articles in powder. Where the woman is plethoric, and the neurosis seems connected with a cerebral engorgement, recourse is to be had to blood-letting, dieting, a diluting regimen, enemata, derivatives to the inferior extremities, and gentle purgatives, especially calomel, in doses of three or four grains daily.

Like the neuroses above treated of, the neuroses of the sense of hearing attack nervous females, and those who are of a plethoric constitution. The patients first hear a buzzing noise in the ears, and suppose they are hearing real sounds of different kinds, or they suppose they have increased or diminished auditory power, or there is some discordance betwixt the perceptions and the sounds.

The treatment, like that of the neuroses of vision, consists in the use of antispasmodics and opiates, provided the affection is due to a

nervous condition, and in venesection and derivatives when it is connected with a state of plethora.

As to the neuroses and anomalies of the senses of smell and taste, to which pregnant women are obnoxious, they generally require no regular treatment: for they almost always disappear spontaneously soon after the confinement, for they are results of a sympathetic influence of the womb.

[I cannot agree with M. Colombat in all this opinion, since the affections of the hearing, notwithstanding they may in some instances arise from a mere sympathy with the womb, yet cannot be known to do so except by the event. The sudden abolition or extraordinary mutation of power as to one of the senses, like similar changes as to the activity or obedience of a muscle, should be regarded as evidence of pressure or of irritation at the source of the nerve power in question, and in the event of either of the theories being adopted, the case becomes one of startling interest. I had a young lady under my care during her pregnancy, in which she suffered with attacks of headache, for which she received the appropriate treatment. On one occasion, when about eight months and a half gone with child, she went to a drawer of her bureau to look at some papers, and while standing before it thought she heard a loud explosion, and received a violent blow on the head. She informed me that the sound was like that of a heavily-charged musket, and the blow felt as if some one had struck her head with an axe. She was stunned for a moment, and when the painful sensation had disappeared she could only see half of the paper, and half of any thing that she looked at. I was called to her, and upon arriving, learned that she could see only the right half of my face, half a bed-post, window-blind, or whatsoever object she looked at. I need not say that I felt very great concern for the internal affection that had given rise to these symptoms, and that I immediately bled her copiously, after which she recovered.

The late distinguished surgeon, Dr. Physick, was called to a gentleman here who suddenly lost his hearing—it was absolutely gone—the sense being for the time completely abolished. Dr. P. looked upon him as suffering from pressure at the sources of the auditory nerves, and treated him by the most liberal venesection, after which his hearing immediately returned. He died some years afterwards, of a series of paralytic attacks, terminating at length in apoplexy.

If a woman in labour should say, Sir, I cannot see you—the room has been darkened, or should she say, I see every object doubled, or only half of any object, I esteem it far more prudent to look upon the complaint as one exigent of immediate treatment, than to say, along with M. Colombat, that it arises from sympathy with the womb, and pass it lightly by.

A woman in labour said to me, "Doctor, what is the matter, sir, I cannot see you." "Give me a bandage and basin," said I to the nurse, "quick, quick,"—but before I could tie up the arm she was in eclampsia.—M.]

## DISORDERS OF THE INTELLIGENCE AND OF THE MORAL INCLINATIONS AND AFFECTIONS.

Although the modifications that gestation introduces into the intellectual faculties and the moral inclinations and affections, have been greatly exaggerated, it is nevertheless true that insanity, certain forms of monomania, and certain disorders of the understanding often come on during gestation. It is very certain that pregnancy exalts the sensibility and the susceptibility, and disposes the person to nervous disorders.

We shall pass over, in silence, the antipathies and the sympathies, the queer temper, the headstrong character, the melancholy, perverse or irascible humour that displays itself of a sudden, in females of the mildest and most even temper. Women have been known to become thievish, poetical or musical, from being pregnant, while others in that situation lose all intellectual activity, and some have all their intellectual powers either elevated or depressed in force. Goubelly speaks of a woman who never had a sound judgment except when she was pregnant; but she then lost her memory, which, after her delivery, she recovered, but at the expense of no judgment. Baudelocque mentions a pregnant woman who ate nothing with so much pleasure as the articles of food that she had stolen, while going to market for her provisions. Roderick à Castro tells us of another female who wanted to eat a piece of the baker's shoulder, and Langrus, of another who, longing to eat a piece of the flesh of her husband, whom she tenderly loved, assassinated him to satisfy her ferocious appetite, and then salted down some parts of the body, with a view to prolong the pleasure. Vives speaks of a woman who would, perhaps, have miscarried, had she not been allowed to bite a young man's neck, one of her acquaintances. In 1816, a woman at Mons threw three of her children into a well, and then plunged to the bottom herself. She had two other children, one at boarding-school and the other with a wet nurse: happily for them, the youngest had not been sent to her in time, agreeably to her order, and the elder child did not take any of the poisoned cake that she sent it.

Generally speaking, all these caprices, all these oddities and maniacal states, disappear after delivery: insanity, however, which, besides, does not come on until after the parturition, (puerperal insanity,) sometimes continues throughout the lifetime of the patient. The therapeutical treatment, under such circumstances, is almost always impotent, and consists, indeed, almost wholly in a few bleedings, some counter-irritants to the skin, and derivatives applied through the intestinal tube.

[M. Colombat says truly, that puerperal mania does, in some instances, last as long as the life of the patient; but it would be wrong to assume from this, that the cases of non-recovery are few. On the contrary, the cases of recovery are numerous, while those of persistent mental alienation are very few, and those in which death occurs are very rare, indeed. Dr. William Hunter, of London, was asked what opinion he had formed as to the pros-

pect of recovery of a lady who had been brought to London to see him. "Ah, that's not the question in these cases," replied he; "the question is not whether the patient is to recover, but when?" If Dr. Hunter ever made the above remark, it should be deemed a consolatory item in the budget of distress connected with such cases, since his great judgment and experience have been almost universally acknowledged; yet it is true to say, that not a very few persons, seized with the symptoms of puerperal mania, perish, sooner or later, from lesions of the encephalon, consisting of softening, or effusion or even extravasation of blood within the parietes of the cranium. M.]

## OF ECLAMPSIA, OR PUERPERAL CONVULSIONS.

By the term eclampsia, *eclampsia parturientium*, from the Greek εχλαμψις, *flash of light*, is understood the epileptiform attack of convulsions depending upon the puerperal state, that is to say, those that are met with in pregnant women, in women in labour, or those who have been recently delivered. Although the convulsions may exhibit themselves in the puerperal state, under the form of hysteria, tetanus and catalepsy, we esteem it best to say but a few words on them, in order to afford space for fuller detail on the subject of the epileptiform cases, since the former sort are always less serious, exhibit much less alarming symptoms, and require pretty much the same treatment as the epileptic kinds. Furthermore, cases of cataleptic and tetanic puerperal convulsions are so rare that even M. Dubois himself has never had an opportunity to meet with a case.

The frequency of eclampsia, or epileptiform puerperal convulsions, cannot be accurately established; for the statistical results obtained in various countries, and at different periods, show the most enormous discrepancies amongst themselves. In fact, from the statistical statements, extending from 1829 to 1842, at the Paris *Maternité* and at the *Clinique d'Accouchements*, the disease occurred only ten times in 12,500 women, or once in 1250 cases; while, at Dublin, the statistical report shows thirty cases in 1600, that is to say, one in every 53 women; an enormous difference, which no circumstances can explain or account for.

The causes of eclampsia ought to be divided into predisponent and occasional causes. Amongst the number of the former, there is one that ought to be deemed essential, and as occupying the first rank, to wit, the puerperal state, which lends energy and power to all the other causes, which, in the common course of life, may give a predisposition to convulsive disorders. It should be stated, however, that the puerperal state does not constitute a predisposition to eclampsia, except when accompanied by other conditions that develop the predisposition in a still higher degree. The first in order, of these conditions, is undoubtedly the primiparous state; for, according to a statement made by Dr. Collins, of Dublin, there were seventy-five primiparous women in eighty-five cases of convulsive attack during pregnancy and lying-in. Nevertheless, women who

have had children are* also liable to convulsion; but they are so under the influence of other causes, that we shall make known, and which exert a direct influence on the production of the *accidents*. Women in their first pregnancy are more liable to eclampsia, only because in them the uterus enjoys a higher degree of susceptibility, and the labour, moreover, is longer and more painful. Among the predisponent causes of the disorder, we ought also to class the distension of the womb by twins, or by an unusual quantity of water, which almost always coincides with a serous diathesis and considerable infiltration of the inferior extremities. The sanguine temperament, and particularly the lymphatic temperament, with general or partial œdema of the cellular tela, are rationally, by many authors, regarded as conditions essential to the production of eclampsia. The isolated influence of the nervous temperament is less marked than that of the other states above mentioned; but a decided rachitic condition seems to have a very decided influence in the production of the disease for eclampsic convulsions, and are more frequently noticed in rachitic females, than in such as are well formed.

[M. Colombat appears to me to beg the question here; and he attributes to the disease what should more fairly be assigned to the influence of the products or consequences of the disease. A woman may enjoy the most robust and vigorous health, notwithstanding she may, in early life, have suffered great distortion of the spine, the pelvis, and of other parts of her osseous structure. She was rachitic, as a child; but, as a woman, she is in sound health. Such a woman is exposed to the extremity of nervous perturbation by the opposition of her rickety pelvis to the delivery of her fœtus, in labour; and, in so far, may be regarded as liable to convulsions. It may be true that she is so; but I have not met with convulsions in any one of the cases of labour, with distorted pelvis, that has been under my care. M. C. goes on to say that:—M.]

A deformity of the pelvis, a bad position of the child, a disproportion between its parts, and the passages it is to traverse, and, indeed, an excess of sensibility of the womb, are likewise so many circumstances that predispose the patient to the puerperal convulsion.

Particular states of the atmosphere have also been classed among the predisponent causes of eclampsia. Smellie, Désormeaux, Mad. Lachapelle, M. Boutèillier, and some others have remarked that the disorder sometimes prevails epidemically. It may, likewise, be brought on by the power of imitation, or by fright from seeing a woman seized with convulsions, which has often been clearly observed in the lying-in wards of a hospital. One may also perceive that whatsoever tends to excite the general irritability of the constitution, may constitute a predisposition; it is in this way that we discover the effects of imprudence in eating, and disorders in the exercise of other functions of the economy; the use of high-sea-

* Women have been seized with eclampsic convulsions in the second, third, fourth, fifth, and even in the eleventh pregnancy.

soned food, a depraved appetite frequently gratified, attacks of indigestion, the abuse of coffee, drunkenness, abuses of coïtus, especially in the latter months of pregnancy, the abuse of alcoholic drinks, the impressions made by odours, the use of tight dresses or corsets, and, in fine, the effect of the passions, whether of joy or grief—and all the more powerful emotions of the soul.

It would appear, from a considerable number of observed cases, that eclampsia is less common with poor country women than with the easier classes of cities, who are, generally, more excitable and of a more nervous and active temperament. It is right, however, to remark, that puerperal convulsions are principally to be met with in the hospitals of large cities, and, of course, among the more wretched classes, who, in fact, partake of the same nervous predominance as appertains to the wealthier females, and is, moreover, connected with most unfavourable hygienic conditions.

The operation of the predisponent causes does not, necessarily, result in the production of the epileptiform convulsion, and, as it serves merely to place the economy in an attitude favourable to the development of the attack, some occasional circumstance must of necessity intervene, in order that the disease may make itself manifest.

Among these occasional circumstances we ought to place in the first rank the pains of labour. In fact, the attack of eclampsia does most commonly take place just as the head is escaping from the circle of the os uteri, or from the vulva, or, in other words, at the period when the labour pain has reached the summum of its intensity. It happens, especially where the pains are protracted an inordinate length, in consequence of some obstacle, such as rigidity, hardness, or spasms of the cervix, unusual tenacity of the membranes, a cancer of the womb, an occlusion or extraordinary contraction of the os tincæ, a calculus in the bladder, or an extremely distended state of the bladder, a polypus or any tumour within the pelvic cavity, a rupture of the womb, or the laceration of its cervix; in fine, a disproportionate size, or the death of the fœtus; a bad position of the child; twin pregnancy, and the various manœuvres required in the operation for turning the child or delivery by the forceps. It should be added farther, that strong moral impressions, such as anger, vexation, fright and joy may at this period become determining causes of eclampsia.

Dr. Burns, an English physician, thinks that the compression of the sacral nerves, either by the child's head or by the forceps, should be regarded as an immediate cause of the disorder under consideration: a circumstance that might be considered as proof of the soundness of this opinion as to some of the instances, is this, namely, that in eclampsia the head is very frequently in an occipito-posterior position. However, it is our opinion, that the determining cause of eclampsia occurring during the course of pregnancy is a result of exaggerated sympathetic reaction of the womb upon the nervous system. It is to be remarked, that convulsions occurring during the progress of gestation may cause abortion to take place, or they

may occasion the death of the fœtus and a premature confinement. Labour under such circumstances goes on more rapidly than in ordinary cases, and almost always without the consciousness of the patient, who appears to feel no pain, or at least gives no sign of suffering beyond a low grunting sound.

Puerperal convulsion may be also caused after delivery, by the presence of coagula in the womb, or by remnants of the placenta, or of false membranes, retained within the cavity. In such cases the convulsive paroxysms succeed the expulsive efforts; they may also be brought on by lesions and lacerations of the womb, by exposure to cold, and by walking about too soon after delivery, and sometimes by metritis and peritonitis, which produce suppression of the lochia, itself a mere symptom that has been erroneously regarded as a cause of eclampsia. The same may be said as to flooding after delivery, which brings on convulsions, that are, however, of a nature different from those in question. The precursory signs of the disorder are numerous and varied, but sometimes so slight that they excite little attention. They consist in a fixed pain in the head, with disordered intellect, sensibility and mobility; an extreme degree of uneasiness; flashing of light in the eyes, vertigo, hallucinations; diminished power of sight and hearing; confusion of ideas and of the speech. The eyes are by turns fixed and rolling, their pupils are dilated; there is shuddering of the limbs, accompanied by slight convulsive twitchings of the muscles of the face, which appears somewhat swelled and flushed; these prodromes are often followed by vomiting, involuntary discharge of the fæces, and likewise by violent pains at the epigastrium; sometimes, however, the attack comes on without any apparent precursory sign.

The attack is announced by symptoms peculiar to it; the woman is excessively agitated and uncontrollable, the countenance assumes a bluish or violaceous tint, the look becomes fixed, the globe of the eye turns up under the upper lid, the nostrils are distended, the angles of the mouth are drawn backwards, the chin seems sharpened, and the features resemble those of a satyr. At the same time the trunk becomes rigid, and the hands are convulsively clenched, the head turns over backwards, and through the half-open mouth the tongue is projected forth. The forearms acquire a very rigid tension and are excessively pronated, the legs are extended upon the thighs, the feet and toes are strongly flexed; the body, which is bent backwards, often seems to rest only on the heels and the occiput, like two ends of a bow; and the jaws are so forcibly clenched that the tongue, in many of the examples, is deeply wounded. One remark on this subject is, that, in general, one side of the body is more convulsed than the other; but the motions are limited in all the cases, consisting of little more than a sort of trembling, which serves to distinguish the puerperal from the hysterical kind of convulsions; the latter sort being characterized by extensive and violent motions.

During the attack the respiration, which is at first rapid and jerking, becomes suspended, while the muscles refuse to dilate the

thorax, or while the glottis is closed by spasm; when the air, however, escapes from the lungs, the breathing, which is suspirious and loud, produces a hissing sound, owing to the rush of the air betwixt the clenched teeth, carrying with it abundance of the saliva, which inundates the whole mouth. The circulation is also very irregular, and the arterial pulse becomes so feeble and disordered that, at times, there is a real suspension of the motions of the heart. Further, throughout the whole duration of the attack, the sensibility of the patient is completely nullified, the intellection wholly disappears, and sight and sound are no longer perceived, while the skin fails to perceive even the most violent excitants that can be applied to it. All these symptoms last during some few minutes, and the respiration and circulation then gradually resume their natural rhythm; the close of the attack is announced by a return of warmth to the surface, and by a general perspiration, and, above all, by diminution of the convulsions, which, though they are more violent, yet recur after longer and still longer intervals.

The convulsions are followed by a state of stupor, complete relaxation of the limbs, loss of sense, feeling and memory, and apoplectic somnolency, accompanied with stertorous breathing, interrupted by moanings, and a complete forgetfulness of all that has transpired during the attack.

The duration of the attack varies from three to five and even to ten minutes; but we doubt whether it can exist during ten hours out of the twenty-four, as in a case mentioned by Levret. It almost always happens that the attacks are repeated, but after each attack the torpor and the sleep are more prolonged and decided, and they become more so in proportion as they are more frequently repeated; in some cases they may be found to recur at determinate periods. Baudelocque speaks of a lady whose attacks occurred twice a day for twelve consecutive days; he adds, that the attacks always lasted three hours and a half, which leads us to suspect that the distinguished accoucheur may possibly have been mistaken as to the nature of the convulsion, as attacks of eclampsia could not be very greatly prolonged without destroying the patient. In fine, the convulsions may come on at intervals of five minutes consecutively, or every fifteen minutes, and they may be separated by intervals of a whole day, or of several days.

Generally speaking, the disorder terminates fatally in half the cases; or it may be followed by restoration to perfect health—or it may result in the development of some other disease, of greater or less severity.

[M. Colombat says that one-half of the cases of puerperal convulsions prove fatal. I am very sure that such is not the case in this country. I have met with upwards of twenty cases of the affection, of which not more than three have proved to be mortal cases; so that, instead of 50 per cent. of fatalities, I am confident that the fatalities will not reach beyond 14 or 15 per cent. under a judicious management of the attack. By a note, dated August 31, 1844, from my colleague, Prof. Huston, of the Jefferson

Medical College, I learn that his results are very similar to mine, he having lost two only out of thirteen cases of puerperal eclampsia, the amount of his personal experience in hospital, in private practice and in consultations, which is a mortality of not quite 15 per cent., instead of 50 per cent., as stated by M. Colombat.

Dr. Collins, of Dublin, says, that thirty cases of puerperal convulsions occurred in the lying-in hospital during his mastership, and that five of the women died, giving a mortality of between 16 and 17 per cent.—M.]

Death sometimes takes place during the convulsion, or in the stupor that follows it; women have been seen to perish in the first or the second paroxysm. History informs us that the Duchess of Beaufort died in the second paroxysm of puerperal convulsions, with which she was seized while writing to Henry IV.

The return to health may be more or less rapid, but it is generally gradual; however, an attack may take place without leaving any symptoms whatever after it is over.

Lastly, the diseases which may be complicated with, or which may become sequelæ of eclampsic attacks, are rupture of the womb, a speedily fatal accident, metro-peritonitis, paralysis, or simple numbness of the limbs, disordered understanding, and diseased sensations, mania, dementia, amaurosis, deafness, cephalalgia, and a loss of memory more or less absolute. It should be understood that these several disorders may be only transitory, or that they may be indefinitely prolonged.

The *prognosis* of the case is very serious, both as to the mother and her offspring. It is more serious in primiparous women than in such as have had children before, and it is particularly unfavourable for first labours in women somewhat advanced in life, for women not subject to convulsions, as hysteria, epilepsy, catalepsy, &c. The prognostic is more serious in women whose limbs are infiltrated, and it has been found more fatal in hospitals than in private practice; and that the same is true as to cases occurring before the full term of pregnancy, because the disorder is complicated with all the hazards that attend abortion.

An attack coming on at term, but before the commencement of labour, is also more dangerous than one that comes on during the progress of a labour, or towards its conclusion, and this latter is more hazardous than one that succeeds to the birth of the child or the delivery of the secundines. Lastly, the prognosis will be more or less grave in proportion as an attack is made at a period less or more advanced of gestation, inasmuch as in such a case the attacks might continue until the pregnancy should be brought to its close. However, the disease is so much the more to be dreaded as the attacks are nearer to each other, more numerous, more intense, longer in duration, and as the stupor is profound and enduring. We add, that it is a good sign when lucid moments appear after the coma in the intervals of the convulsions.

The death of the child is also a very frequent consequence of

eclampsia, and its danger is enhanced as the attacks are more violent and reiterated. Its life, however, is less endangered when the convulsion comes on before the commencement of the labour. Besides, children born of eclampsic mothers are more liable than others to die of convulsions, for they come into the world with symptoms of cerebral congestion, and are in a condition closely allied to that of infants born with compression of the umbilical cord.

Examinations *post mortem* rarely give any satisfactory explanation of the severity of the symptoms; in a great majority of cases, no lesion is discovered to explain the profound disorder of the nervous system. In women who have perished during the attack, there are sometimes discovered the traces of a cerebral congestion, engorgement of the encephalic veins and sinuses, and sanguine, but more generally serous effusions where life is closed in the stupor of the disease. The viscera of the other splanchnic cavities exhibit no alterations attributable to the malady. In these cases, then, as in all the neuroses, the material change escapes our cognition.

The *diagnosis* of eclampsia is easily established, for, according to the symptoms which we have recognized as belonging to the epileptiform sort, &c., it would always be possible to distinguish them from other affections exhibiting analogous symptoms. Thus the eclampsic convulsion is characterized by movements of small extent, concentrated, occurring in slight jerks, and always ending in stupor and coma. With these characteristics, it cannot be confounded with hysteria. It is true that there is sometimes confusion of these two orders of symptoms, but the gravity and the indications are always the same, for in this case the hysterical symptoms are transformed into those that are characteristic of eclampsia. Paroxysms of hysteria ordinarily begin with sobs, a feeling of constriction at the throat, and they consist in violent movements of the body, they terminate in weeping, and in loud cries, but without frothing of the mouth, change of the countenance, or stupor. Cataleptic attacks are marked by muscular rigidity, without any convulsive motions, without consecutive stupor, or any disorder of the understanding after the attack. Moreover, catalepsy is more common in pregnancy than in labour, during which it is suspended; besides, it compromises neither the mother nor the child. Attacks of tetanus are signalized by painful and permanent muscular rigidity of one or more parts or of the whole system, but without alteration of the intellectual or sensorial powers. These attacks are extremely rare in labour, only one woman having been seen to perish with it.

Epilepsy is the disease that bears the closest resemblance to eclampsia; indeed, there is no difference between them except in the closing of the paroxysm. In eclampsia the stupor is much more decided and lasting. Besides, the pregnant state, and the non-existence of epilepsy previous to the conception, which generally suspends an epilepsy, are circumstances that show the case to be one of eclampsia. The eclampsic stupor, moreover, should not be confounded with apoplexy, which is not ushered in with convulsion, and is attended by a persistent paralysis. Let us further add that it is

quite as easy to distinguish the puerperal convulsion from those that follow violent flooding.

The *treatment* of eclampsia should be modified accordingly as the attack takes place during the progress of the pregnancy, coincidently with labour, or after the birth of the child.

*During pregnancy.* Should the physician arrive during an attack, instead of remaining a passive spectator of the scene, he should see that the patient be properly held by intelligent assistants, so as not to repress her movements too much; then when the mouth opens and shuts with violent force he ought to push the tongue, whenever it is thrust forth, back into the mouth, and retain it there with his fingers, lest it might be seriously lacerated. For fear of being bitten, a piece of fine cork might be made use of for this purpose; but a spoon ought never to be introduced into the mouth, as is done by most physicians. It is proper, also, to compress the carotids, and to pour cold water on the face, especially if the attendant be present during the prodromes of a paroxysm, to which, also, he ought to oppose a venesection, and leeches to the throat, the temples and epigastrium, which is in general the seat of some disease.

But it is particularly after the attack is over that the physician may act with the greatest advantage. Blood-letting is proper in true eclampsia, not only where the patient is plethoric, but also in those who are infiltrated, with this difference, however, that it should be more abundant in the former sort. Bleeding from the arm is always to be preferred to bleeding from the jugular vein or the temporal artery, for these require a subsequent compression that obstructs the return of the circulation; it is also to be preferred to bleeding in the foot, which is generally impracticable, on account of the infiltration of the lower extremities. The quantity of blood to be taken away is from twenty to forty ounces, twenty-five to thirty for the mean, twenty for the minimum, and forty as the maximum quantity. Although Hamilton and Dewees carry the quantity to be withdrawn up to fifty, and even to one hundred ounces, the quantity we have indicated ought rarely to be exceeded. Should the symptoms not be lessened, the bleeding might be repeated a second, or even a third time in the course of the day; but these abstractions of blood should be much more limited than the first one. Abstraction of blood by leeches to the nucha, the throat, and the temples, will also be useful; yet they should be had recourse to only as an auxiliary measure, and as substitutes for a second or third general bleeding, but NEVER as a PRIMARY MEASURE.

It is useful to associate with the venesection the use of derivatives to the intestinal canal, by means of mild cathartics, such as castor oil, calomel, alone or in combination with jalap, in a dose of from five to ten grains, and also the sulphate of soda or of magnesia. Mauriceau used senna with the juice of an orange; Delamotte recommended rhubarb, manna, the syrup of *nerprun*, and Merriman prescribed a pill of five grains of calomel, followed by a solution of some purgative salt, the doses being repeated every third or fourth hour, the operation being solicited by laxative enemata. Should

the stupor be so great as to hinder the opening of the mouth, these purgatives ought to be administered by injection. Emetics ought not to be prescribed except where the attack should coincide with an overloaded stomach, or where the disorder seems to have some connection with gastric derangement.

Derivative applications to the skin appear to be not less beneficial than the other measures of relief; but their employment ought to be wisely managed. We should confine ourselves to the application of warm cataplasms to the feet and legs, where the attacks are frequently repeated; but in case the convulsions return at intervals of several hours, sinapisms may be advantageously placed on the legs and blisters to the inside of the thighs and to the nape of the neck. These counter-irritants are most especially useful where the stupor is of long duration; but the blisters ought to be removed as soon as the rubefacient effect shall have been produced.

Cold applications to the head, such as ice or cold water in a bladder, may likewise be very useful. Under such circumstances we ought not to hesitate to cut off the hair. Should the stupor be persistent and more decided, care ought to be taken to remove the cold applications. Let us add, that Merriman recommends the following mixture:—

R.—Liquid acetate of Ammonia, ℥iv
Spirit of Rosemary, ℥ij.
Water, ℥j.
Mix.

Baths, also, afford a very useful remedy; but they are suitable only in cases where the paroxysms are separated by considerable intervals, during which the patient recovers her senses. Tepid baths are particularly valuable as remedies in this case, where care is taken to direct cold aspersions to the head, or to keep a bladder of ice upon it; they are injurious if the convulsions are frequent, and the stupor very great. It would be useful, in such a case, to introduce the catheter and empty the bladder, whose excessive distension, and the suppression of urine, which are common occurrences during the stupor, might tend to excite renewed attacks of the convulsion.

The antispasmodics, as opium, musk, assafœtida, camphor, &c., the effect of which is slow, will not often be resorted to in this form of convulsions; opium especially should be made use of only with great reserve, when there is cerebral congestion and stupor; nevertheless, Dr. Collins, of Dublin, informs us that he met with great success in the use of this article combined with emetic tartar, which, after premising the other remedies, he prescribed as follows:—

R.—Water, ℥viij.
Tartar Emetic, gr. viij.
Tincture of Opium, ♏xxx.
Syrup, ℥ij.
Mix.

To be taken in doses of a tablespoonful every half-hour. M. Velpeau, also, asserts that he was successful in the use of acetate of morphia, in doses of a quarter or half grain every second or third

hour, mixing it in a tablespoonful of water. We believe that the sedative remedies have been useful chiefly in cases other than eclampsia.

[I am much pleased with M. Colombat's bold and vigorous employment of the lancet in his cases of puerperal eclampsia, and perhaps he has gone far enough in his recommendation of venesection. Yet the late Dr. Dewees, Dr. Chapman and most of the practitioners here, would scarcely feel themselves warranted, in a young, vigorous female in convulsions, if in a first pregnancy, to take less than forty to sixty ounces of blood, provided the repetition of the attacks should serve to show that the hyperæmic state of the brain, leading to the first convulsion, was not overcome by the first bleeding of twenty or thirty ounces.

I am not so well satisfied as to his abjuration of opium in the treatment. I believe it has become a very general practice here, to give opium freely in almost all the cases where full blood-letting has been premised, and after the unloading of the bowels by very active enemata. I should make it almost invariably a rule, to give from twenty to forty drops of laudanum, to be repeated even several times, and at no very distant points of time, where I could no longer entertain any doubts as to whether I had been sufficiently attentive to relieve the brain by free use of the lancet, and of cups or leeches. It appears to me, that I have seen several women pass gradually from the stupor or coma of eclampsia into the quietest sleep under the soporific and anodyne power of opium—a practice that has proved not only safe but most efficacious. Indeed, the nervous excitability left after the convulsion, the labour, the blood-letting and other treatment, seems loudly to call for the hypnotic power of this most beneficent drug. It is quite true, that a treatment undertaken without reference to the predisposing causes and influences might lead the practitioner to be too soon satisfied with his prescription of venesection, and permit him to hasten the exhibition of the opiate sooner than the state of the patient would really warrant. If we reflect but a moment upon the facts, we shall be compelled to admit that puerperal convulsion is far more common in primiparous women than in women who have already undergone the fatigues and excitements of gestation and labour. But why should this be the case, seeing that the health and strength of the patient should be, *cæteris paribus*, better than that of the woman who has already been racked with the pains and all the accidence of the gestative and parturient state? I am fully of the opinion set forth by Puzos, at p. 173 of the *Traité des Accouchements*, who says: "If the blood-lettings and other remedies do not calm the convulsions, and should they, on the contrary, become more frequent, the measure most indispensable is to deliver the woman as soon as possible; for, by freeing the womb of such a burthen, we emulge the great vessels that run along the course of the spine, and allow the blood to flow equally to every part, whereas, before the delivery, the excessive pressure

of the child upon the great trunks of the descending aorta, compelled the blood to flow upwards to the superior parts and to inundate, so to speak, the mass of the brain."

This sentiment of Mons. Puzos has been reiterated by writers, but it appears to be one so just and apposite, that proper occasion ought always to be taken to enforce it and promulgate it. The strong, healthful, resisting muscles of the woman who has not borne children, cannot fail to compress the womb with considerable more force than the weak, flaccid muscles of the female who has been already confined. Under such compression the blood tends to accumulate in the head and superior extremities, and to develop there a more active and powerful nutrition. In many such the hands are swollen and stiff upon rising in the morning, and the face becomes bloated or swelled—the old notion, that a woman who has conceived cannot measure the circumference of her neck with a thread that was quite long enough to go round it before, has some foundation in fact, then.

*Non illam nutrix, oriente sole revisens*
*Hesterno poterit circumdare collum filo.*

The rapid development of the mammæ in pregnancy is also, in part, attributable to the inundation of the superior parts of the body with the blood, the source, the cytoblastem of all nutritive absorption. In primiparous females, then, the brain, *ipso facto*, is to be held as in a hyperæmic state for some weeks, or even months before the commencement of the labour. Let the labour-pains be violent, long ones and for a long time repeated—how can it happen, that the solid, contracted globe of the womb shall be pressed violently and repeatedly against the descending trunk of the aorta, without more or less impeding the flow of blood in the tube, and, consequently, compelling the carotids and superior branches to carry a preternatural quantity. This excessive sanguine determination, which so frightfully engorges the face and bosom of the female in her throes, is generally rendered harmless by the floods of perspiration which deluge the superior parts, while the legs and feet remain dry. The salutary diversion thus effected, saves many women from apoplexy and from eclampsia. I look upon it as a dangerous state, when a woman in strong labour does not sweat freely from the head and thorax. She is generally in danger of convulsion.

It is with me a rule, not to allow a primiparous female to lie long upon her back while in strong labour, for fear that the weight of the womb superadded to the pressure of the abdominal muscles, might check the aortic circulation too considerably—and the more particularly would I forbid a dorsal decubitus in case she should make any complaint of headache, dizziness, flashings of light, or tinnitus, or manifest any other symptoms of excessive sanguine determination to the head.

M. Velpeau, in his monograph on puerperal convulsions, speaks of the value of blood-letting as inestimable in the treatment of the malady, and yet admits that the most eradicative abstractions will not suffice in all cases to

secure the patient's recovery. So, likewise, Dr. Robt. Lee (*Lect. on the Theory and Pract. of Mid.*, p. 400) advises, in energetic terms, the use of the lancet: "Copious blood-letting in puerperal convulsions is the first remedy now employed by all practitioners in this country," (*loc. cit.*,) and, though he admits the impracticability in some cases, to abstract a sufficient quantity to save the patient, he evidently looks upon it as the sheet-anchor of hope.

I need not extend this note for the purpose of reiterating directions as to enemata, cathartics, cups, leeches and sinapisms, shaving the head, &c.; these are too obvious to require any notice from me, but I desire to say, that the practice here at present is, so far as I know, nearly universal, to give full doses of opium as soon as the practitioner is satisfied that he has carried his venesections to a sufficient extent. Robt. Lee, *loc. cit.*, says: "Opium has been almost universally condemned in puerperal convulsions, and I consider it improper before blood-letting has been employed to a sufficient extent, and delivery has been completed, either spontaneously or artificially. In some of the most severe cases which I have seen, after copious venesection and delivery, large doses of the liquor opii seditivus, have appeared to produce very powerful effects in arresting the fits; in others, no benefit whatever resulted from the employment of sedatives of any kind," 402. The caution of the distinguished writer, as to the exhibition of opium before delivery, is, I think, a case of excessive caution, since I have seen women recover, undelivered, under very liberal exhibitions of opium; but never until the venesections had been carried to a great extent. Indeed, I do not perceive that delivery or non-delivery has any thing to do with the therapeutical principle of the case, as to the exhibition of the drug.

M. Colombat coincides with every body in the opinion, that the brain, when examined after death, generally yields no pathological lesions to explain the violence of the disorder. We have a legitimate right then to infer, that the disorder is one of extreme cerebral excitement from hyperæmia, and from sympathy of the brain with the irritated organs below.—What could then be more reasonable than the exhibition, after abundant depletion and evacuation, of full doses of the anodyne, the only one that can be expected to remove from the encephalon its excessive perceptivity of distant irritations.—M.]

If it be agreed that the state of plenitude of the uterus, is one of the most powerful causes of the eclampsic convulsion, does it not appear to be reasonable to arrest those convulsions by emptying the womb? When the attacks come on before the sixth month, we ought to make every effort to overcome them, without provoking delivery; but there is no necessity for such precautions where the viability of the fœtus is already possible, that is, where the pregnancy has nearly reached its term, and especially where the cervix is soft and dilatable, and where the attacks, after resisting the venesections, baths, &c., threaten to prove speedily fatal. Under circumstances like these we

should be justified in rupturing the membranes, or detaching them, and should those steps fail, we could properly proceed to a forced premature delivery. It is true that cases where such measures are required are very rare; they would be useful only in women who have already borne children, and not in cases of primiparous women, who are precisely those most liable to puerperal convulsions, and in whom the os uteri is almost always rigid and not readily dilatable. In fine, where the paroxysms are very violent, they commonly excite uterine contractions, which often effect the expulsion of the child. Besides, we must never despair of seeing the attacks disappear, never to return, allowing the woman to come to her bed without any disaster.

During the labour the assistance of art may be demanded, either when the os uteri is undilated, or where the dilatation is completed. In the former case, after the employment of the measures now pointed out, there is a better chance of success, the pregnancy being at term, by resorting to the means proper to facilitate the natural expulsion, or even to terminate the delivery artificially. In order to assist the natural delivery we should order emollient fumigations by means of a funnel, the nozzle of which being covered with a piece of linen, should be directed towards the womb; by injections of the same kind; by the employment of belladonna mixed, in equal parts, with cerate, or pure in the form of extract, say two or three grains, which should be placed on the os uteri by the index finger. But prudence is necessary here, for the drug being promptly absorbed, might prove dangerous in the convulsions, particularly, were the coma very much prolonged. The introduction of the fingers with the design to dilate the os uteri, ought not to be considered proper in the major part of the cases; for the irritation it excites provokes to repetition of the pains at improper intervals, and thereby tends to bring on attacks of convulsion. The same principle applies to the administration of the spurred eye, the action of which is not to be doubted of, but which, by bringing on powerful and permanent contractions, might probably give rise to the eclampsic paroxysm. However, the use of this remedy might be resorted to in desperate cases.

The measures now indicated having been put in execution without any happy effect, and the convulsions increasing in frequency and violence, in such a way as clearly to compromise the lives both of the mother and her child, the practitioner should endeavour to conclude the labour by rupturing the membranes by means of a catheter, by incising the os uteri, or by turning the child and delivering it footling. There are cases that go to show the advantage of rupturing the membranes, where dilatation has already commenced, and where the excessive distension of the uterus appears to act as a cause of the obstinacy of the attacks, and especially where the presentation of the fœtus is natural and favourable. It ought not to be done, however, under opposite circumstances; for it might then be followed by the loss of the child, from pressure on the umbilical cord, or it might render the delivery by any manual or instrumental operation, far more difficult. Were the os uteri somewhat open, soft and very dilatable, we should

be justified in resorting to compulsory delivery by the hand, which is passed up to the child's feet, which are brought down until the child is completely turned, and so delivered. But the time required for this operation, and the pain it gives, appear to us reasons for preferring the incision of the os uteri, which gives occasion to less laceration, less pain, and fewer accidents of any sort than forced delivery by turning. This operation, proposed by Simson and Lauverjeat, under the title of vaginal Cæsarian operation, is done with a probe-pointed bistoury that should be a little falciform. The blade, applied flat along the finger, should be carried up to the cervix and applied to the anterior margin of the circle of the os uteri, which should be then cut or divided by a forward movement of the bistoury. One incision might, perhaps, prove sufficient, but it is better to make two or three of them of a smaller size. Such an operation as this, be it understood, ought not to be ventured upon, as long as there is any other chance of success in the treatment. For the most part, after this chirurgical relaxation of the cervix, nature provides for the delivery—where her power proves incompetent, it is our business to bring it to a conclusion.

In cases where convulsions come on at an advanced stage of labour, there ought to be no hesitation about terminating the labour by turning, should not the head be sufficiently engaged in the superior strait of the pelvis; in other circumstances, we should make use of the forceps, which is fraught with less danger to the mother than the version delivery. Where the attack of convulsion comes on after the woman is delivered of the child, the prime indication would be to remove the placenta and free the womb from any coagula that might be found within its cavity; should the attacks still come on, we ought to have recourse to blood-letting, to counter-irritants, to baths, to cataplasms to the abdomen, to emollient and detergent injections; and in a case where a flooding should threaten to produce an eclampsic attack, it should be checked by cold astringent applications to the hypogastrium, and even by the tampon, should the measures first recommended fail of success.

[It is difficult for us to imagine a hæmorrhage as menacing the woman with puerperal convulsions, as M. Colombat appears to suppose it might do. On the contrary, every additional ounce of blood that should drain off from the body might be expected to relieve the brain of its sanguine or hyperæmic determination. It is true that hæmorrhage, when excessive and on the point of proving fatal, brings upon the patient a short, quick, rapid convulsion, but such a convulsion is free from the very nature and character of the eclampsia. I protest likewise against the author's doctrine as to the arrest of the supposed hæmorrhage by the tampon; that is, as a proposition *per se*, without those modifications of precept which ought to accompany all directions as to the use of the tampon. I have had so many and such vexatious occasions to remember of tampons consisting of coagula of blood in the vagina, which I always make haste to turn out, that I feel little inclined to pass over an unmitigated prescription of so dangerous a remedy.

When a woman is not yet delivered, a tampon can in general only serve to enhance any danger from the hæmorrhage, on account of which it is employed, and that, by blocking up the blood that continues to pour from the uncovered vascular orifices in the womb, until the cavity of the uterus becoming filled, it gradually yields to the pressure, and dilates more and more. As the superficies of the uterus augments, the patulous orifices of the vessels become more and more open, and the torrent of effusion becomes greater and greater; so rapidly, indeed, that many women have bled and died without discharging any considerable quantity from the vulva. The tampon cannot save a woman by causing the blood to coagulate—nor can it return into the veins the fluid already extravasated. When blood is once out of the vessel, it should get out of the body as soon as practicable—and the woman's safety can only be considered as absolute, when it is procured by means of a firm contraction and condensation of the womb. I agree with Robt. Lee, who says in his *Clinical Midwifery*, that upon the whole, the tampon, even as used in the cases of placenta prævia under his care, has done as much harm as good.—M.]

In fine, should the mother have breathed her last during the progress of the labour, the Cæsarian operation ought to be performed, notwithstanding the slight chance of success in such an attempt to rescue the life of the child. We remark further, that an attack of eclampsia might often be obviated by a preventive treatment, consisting of venesection, baths and purgative medicines, which would be indicated in cases of women infiltrated, or suffering under cephalalgia, disordered vision, vertigo and other significant symptoms. As to attacks of hysterical convulsion, of an hysterical, cataleptic or tetanic character, which are almost always innocuous as to the female, as well as to the child, they should be combatted by means of bloodletting, particularly where the patient is plethoric, and by antispasmodics and derivatives, taking great care always to follow out the true indication as it may be developed.

## DISPOSITION TO FALL.

It is undeniable that pregnant women are much more liable to fall than non-gravid females; this peculiarity may depend upon the great prominence of the abdomen, preventing the person from seeing the stumbling-blocks that lie in her path, or upon the reversed position she is obliged to take in order to keep up her equilibrium, or, indeed, upon the rapid increase of the weight of the body, and the unfavourable distribution of that weight. It has, likewise, been supposed that the pressure of the womb upon the crural and sciatic nerves gives rise to a debility and sort of incomplete paralysis of the inferior extremities.

These falls, which are both frequent and dangerous in the gravid female, are, however, much less common among countrywomen, who retain their strength and activity better than the women of large cities do; it is true, however, that these accidents are much

more rare than they were before the absurd and ridiculous fashion of wearing narrow high-heeled shoes was abandoned. All we can do is to advise our patients to be doubly careful of their gait, so as to lessen, as far as practicable, the awkwardness concomitant on the pregnant state.

## DISORDERS OF THE URINARY ORGANS DURING GESTATION.

Situated betwixt the pubes and the womb, the urinary bladder undergoes several modifications during pregnancy. Being more and more compressed as the womb augments in size, its expansion is obstructed, whence arises a necessity frequently to discharge the urine. When the pressure acts on the neck of the bladder and the meatus urinarius, ardor urinæ will follow, and strangury likewise, should the pressure by the womb irritate the mucous membrane of the parts, and excite any inflammation of the tissue.

These disagreeable effects of the pressure of the womb on the bladder are met with, chiefly, at two periods. First, betwixt the fourth and the fifth month, especially where the pelvis is spacious enough to allow the womb to remain within it after the period mentioned; next, during the three last months of pregnancy, especially in women with decided anterior obliquity of the uterus, allowing it after rising above the plane of the superior strait, to compress the body of the bladder against the anterior parietes of the abdomen, or the neck of the bladder against the posterior surface of the symphysis pubis. The bladder is then drawn along by the womb, which is attached to it by the utero-vesical septum, whence it happens that the neck of the bladder is bent like a retort, making it impracticable to introduce the catheter, except with a sound very much curved, like those used for the male urethra. Under such circumstances the affection continues until after the accouchement of the patient, whereas, in the first-mentioned sort, it ceases as soon as the uterus rises above the strait.

Dysuria and strangury may also depend upon a degree of displacement of the womb, especially upon a retroverted position of the organ; upon a calculus in the bladder, or on a catarrhal inflammation, or on inflammation produced by hæmorrhoids. These diseases, whose chief symptom is retention of the urine, demand a peculiar treatment, to which it is urgently necessary to have recourse as early as possible, for the excessive distension of the bladder might lead, not to its inflammation only, but to its absolute rupture.

A retention of urine occasioned by compression from a womb that has become too voluminous, is developed gradually, unless, indeed, some error of regimen should happen to impart to it a suddenly violent intensity. In all sorts of cases there are two principal indications to be taken up; one of which consists in promptly evacuating the bladder, and the other is to hinder, as far as possible, the accumulation of fluid in its cavity. For the fulfilment of the first indication, a curved catheter should be used, after which the faulty position of the womb, giving rise to the suppression, ought to be corrected. The

employment of these measures may be always usefully preceded by the warm bath, by emollient fomentations, and even by venesection, provided the early remedies should have been deferred.

To fulfil the second indication, which consists in repositing and supporting the uterus, all that is requisite is to raise the womb upwards by the hands placed on the abdomen, or likewise to bend the body very strongly forwards, so that the womb may be got out of the superior strait. Where these attempts fail, we may readily obtain the discharge of the urine by lifting the uterus upwards by one or two of the fingers introduced within the vagina. The woman herself should be taught to effect this purpose for herself. Further, the effects of the uterine pressure may be lessened by keeping the patient in a horizontal posture, and by the use of a binder with which to support the abdomen. Where the difficulty of passing the urine depends upon hæmorrhoidal swellings, leeches ought to be applied to the anus, and the patient should go into the bath, and be afterwards kept perfectly at rest.

A frequent necessity to urinate, and even an incontinence of urine, constitute less a disease than an inconvenience, which besides is likely to continue until the delivery of the child, when it cures itself.

Notwithstanding our art can boast of but few resources against this affection, we can recommend demulcent drinks, and emollient baths, to lessen the irritation of the meatus urinæ, and to subdue the sort of vesical tenesmus that is occasionally conjoined with it. But, should the incontinence of urine arise from atony of the neck of the bladder, coming on after strong compression by the womb, injections ought to be made with Barège waters, or the waters of Balarac or Cauterets. Lastly, paralysis of the bladder should be combatted by injections of soap, or Passy-waters, or Forges-waters, or the waters before mentioned. It seems proper to state that, generally speaking, all the maladies of which we have now been speaking do not obtain a radical cure until after the delivery of the patient, and that all treatment up to that consummation is therefore little else than palliative.

## PAINS IN DIFFERENT PARTS DURING PREGNANCY.

Women at all stages of pregnancy are subject to pains whose seats vary very much. There are in the early months some women whose breasts, under the sympathetic influence of the womb, become painful, and swollen, as happens at the menstrual periods: in others, towards the conclusion of pregnancy, there come on pains from the excessive distension of the skin, and from the secretion of milk which begins to take place. In general, these pains require no medical treatment; but in more serious cases, we are compelled to combat them by moderate warmth, emollient cataplasms sprinkled with laudanum, and, above all, by venesection.

Those pains in the lumbar and sacral regions that women complain of as backache, and which are aggravated by walking about and standing on the feet, may depend, perhaps, on compression of the lumbar or renal nerves, or the stretching of the broad ligaments,

or, perhaps, upon engorgement of the pelvic blood-vessels, or the uterine vessels, or on the excessive distension of the womb. Pains in the back are also produced, in some instances, by fatigue of the muscles of the spine.

We may relieve a patient of pain arising from compression of the lumbar nerves or from stretching of the ligamenta lata, by rest and the horizontal position; while such as are dependent upon distension of the womb, or plenitude of the pelvic vessels, are subdued by blood-letting. In the former, the pains are characterized by the volume, sensibility and tension of the womb; in the latter, by a feeling of fulness at the hypogaster, weight within the pelvis, and heat in the parts, as well as by the signs of a general plethora. Pains produced by fatigue of the spinal muscles, and which, in addition to their precise locality, are marked by increased soreness from pressure on these muscles, generally give way to alcoholic and aromatic frictions on the parts affected.

To speak generally, the chief treatment for these pains, as well as for the cramps and numbness caused by uterine compression of the nerves of the sacral and lumbar plexuses, consists in rest, in baths, opiate injections, and a flannel bandage to support the abdomen, and, lastly, patience, a remedy sovereign in all the disorders whose term is almost always that of the gestation.

## DISEASES CONNECTED WITH THE LYING-IN.

Those disorders that may follow the accouchement of the woman, are situated either in the organs of generation or in any other system of the organism.

Among the former ought to be classed lacerations and contusions of the genital parts, inversion of the womb and vagina, inflammation of these organs, already treated of in former chapters, to which we refer the reader. The other diseases of parturition, most of which affect other systems of the economy, are, suppression of the lochia, milk-fever, peritonitis, uterine and crural phlebitis, metritis, phlegmasia dolens, phlegmonous abscess, cutaneous eruptions, &c., which we shall proceed to treat of in succession.

## AFTER-PAINS.

The first symptoms that are observed immediately after the delivery of the woman in labour, are the after-pains and the discharge of the lochia. The after-pains are owing to the contractions of the womb, and mainly occur whenever the cavity of the viscus is filled with coagula, or with some broken remains of the secundines, from which, by this means, it endeavours to free itself. It generally happens that primiparous women are not affected with these after-pains, which are found to be more and more violent, with each consecutive confinement. They are likewise more violent after an easy labour than after a long and difficult one. However, where the parturition has been extremely painful, the after-pains are often very distressing,

in consequence of the great fatigue that the womb has suffered. They generally commence a few moments after the delivery of the placenta, soon become more and more intense, and then go on lessening in frequency and violence, until the milk-fever comes on, at which period they often disappear completely. It is proper to remark, however, that, in some instances, they are prolonged beyond the term of the milk-fever, only diminishing during its existence.

After-pains may be distinguished from other kinds of pain, by their recurrence at considerable and regular intervals, and by observing that, while they are active, the uterus contracts and becomes hard, so as to expel any clots along with a portion of fluid blood. An after-pain, moreover, is often brought on by the pain that the infant gives when it seizes the nipple. We deem it scarcely worth while to say any thing against the ridiculous prejudice that the more griping the child has, the less after-pain is to be expected by the mother, and *vice versâ*. After-pains, of sufficient violence to prevent the patient from sleeping, may be relieved by anodyne injections, enemata of tepid water, warm cataplasms to the hypogaster, or by a liniment composed of olive oil one ounce, and laudanum one drachm.

[The reader will pardon me for here suggesting the necessity there is for the greatest caution, in deciding what is, and what is not, after-pain. This it is not always very easy to do, since, in many women, the uterus remains very sore and sensible to the touch, for several days after delivery. Under such circumstances, the patient suffers extreme distress, from the frequent recurrence of the uterine contractions, and, not unfrequently, fever is lighted up in the system, as a reaction against the local disorder.

It is my custom, in these cases, to take what I conceive the safest course, viz., to lessen the force of the circulation by a blood-letting proportioned to the exigency. Certainly, as an anodyne, or pain-queller, the lancet, in many circumstances, transcends the efficacy of all other sedatives.

I repeat it, there is great danger of overlooking, under a false security as to the diagnosis, a dangerous attack of metritis. I am well convinced that the dangerous attacks of metritis often coincide with what is usually supposed to be merely violent after-pain; and I think it difficult to conceive of pure after-pain as the sole pathological state of those females, in whom the after-pains continue to recur, with distressing violence, during several consecutive days, leaving the uterine globe, and the whole of the hypogastric region, indeed, very sensitive and sore to the touch. Even supposing that such a state can coincide with complete absence of inflammatory *nisus*, there is always accompanying it, a just ground to dread the development of some of those disastrous forms of inflammation to which the uterus is held always liable, and to which it should be regarded as excessively prone, under the acute and irritating anguish communicated by these post-puerperal contractions. After-pains are well worthy of a careful supervision.—M.]

## ACCIDENTS RELATIVE TO THE LOCHIA.

Notwithstanding some women have been known to have no lochia, and yet do quite well in their lying-in, yet the absence of this excretion is fit to excite the solicitude of the accoucheur, for it may mostly be attributed to some serious disorder, either actual or imminent. Generally speaking, the lochial discharge is most abundant in women who are in the habit of menstruating freely, in those who have had many children, or who take too nutritious a diet, and likewise in women who do not give suck.

While it is quite true that the diminution of the lochial discharge is ordinarily the symptom of some disease, such as peritonitis, metritis, &c., it also happens, in some cases, that it may be a primary affection, and not the sympathetic consequence of an existing disorder, as might be the case after some violent and sudden moral impression, the impression of cold air upon the genital organs or on the lower extremities, and of ablutions and astringent injections into the vagina or womb itself. This primary affection is most commonly followed by the development of very serious affections, such as metritis, peritonitis, congestion, or nervous disorders. All these disorders are so much the more dangerous, and their attacks so much the more to be dreaded, in proportion as the lochia was at first free, and as the suppression may have occurred at a period nearer to that of the recent delivery. Sometimes, also, it is true that the suppression is followed by no bad consequences, and the health of the woman is not at all affected by it, whether the discharges return again fully, whether they disappear entirely, or whether they return in a moderate way.

The treatment of a primary suppression of the lochia consists in the employment of a hot foot-bath with mustard; in directing the vapour of hot water upon the sexual parts; in the application of emollient cataplasms to the lower part of the abdomen and to the vulva; in injections and enemata of the same sort; and, lastly, in blood-letting from a vein in the foot, the application of leeches to the superior and inner portion of the thighs, or to the inner surface of the labia pudendi, and in cups and blisters to the thighs, and sinapisms to the feet and legs. In all cases, the state of the patient's constitution will furnish indications that must not be disregarded: thus, in strong women, we ought chiefly to rely upon blood-letting; in nervous women, we should combine antispasmodics with the measures before pointed out; and in patients of a feeble constitution, where the pulse is not frequent nor the temperature of the skin much elevated, recourse might be had to stimulating and tonic infusions prepared with the periwinkle, the soap-wort, the cane-root, or Virginia snake-root; but it should not be forgotten that the suppression of the lochia generally tends to the production of most dangerous inflammatory diseases.

The symptomatic cessation, or diminution of the lochial discharge, that constitutes an immediate consequence of any disease, and which is justly looked upon as a very unfortunate circumstance, ordinarily

requires no treatment beyond that appropriate to the disorder of which the suppression constitutes a sign. It is worthy of remark, however, that a suppression of the lochia is much more frequently a symptomatic than a primary disorder; that is to say, it is much more commonly the effect than the cause of disorders with which it happens to coincide.

The immoderate lochial discharge which may serve to reduce a woman to a state of great debility and prostration, and which may happen at any stage of the secretion, requires no other treatment than one applicable to a case of metrorrhagia or leucorrhœa, accordingly as the discharge may be sanguineous, serous or puriform. A discharge, of a serous nature, ought to be respected, whenever it coincides with a rapid diminution of a dropsical collection affecting the patient during her pregnancy, for it is then the route which nature employs to evacuate the superabundant serosity that constituted the ascites or anasarca.

Changes in the colour of the lochia, in their odour and consistence, as they are mostly the results of some malady that ought to command the attention of the practitioner, do not constitute a very important symptom. In some cases, however, the lochia, when already puriform, assume a blackish tint, and acquire a fetid odour, without producing any apparent consequence as to the health of the functions. These changes, which are referable to the decomposition of some clot, or a portion of the placenta that may have been left in the womb, require nothing beyond the use of emollient and cleansing injections into the vagina.

## OF MILK-FEVER.

Milk-fever is not so much a real disease as a febrile movement requisite to determine the secretion of the milk, in a woman recently brought to bed.

The development of this fever is announced by shooting pain and aching in the breasts, which become swollen; a swelling that is often found to extend as far as the axillary glands, so that there are some women who, when thus affected, are unable to bring their arms together, but are obliged to keep them far apart. Yet it is true that there are cases in which the milk-fever comes on without any tension of the breasts, and almost without any febrile action.

The symptoms that characterize the formation of the milk-secretion are generally to be observed about the third day after the birth of the child: in certain cases, as early as the first day, or the second, and even as late as the sixth. The pulse then becomes full and frequent; the temperature rises, the skin becomes dry, the face is flushed, the breasts swell and become painful, the thirst increases, the tongue is covered with a whitish fur, the urine is more scanty, and higher-coloured than usual; and all these appearances are preceded or attended by a state of general agitation and a headache without rigors. The febrile condition increases by degrees, and

goes off, in most instances, in about twenty-four hours, and, in some instances, in the course of six, eight, or twelve hours.

While the milk-fever lasts, the lochial evacuation diminishes, or is temporarily suspended; but a diminution or a suppression of the flow ought not to excite any solicitude, for they are occasioned by the febrile action that brings about the milk secretion. In most cases, calm is restored after the flowing of an abundant perspiration, and the lochia then become as free as they were previously to the attack.

Women who nurse their children have little or no milk-fever, especially when they take care to let the child suck very soon after its birth. The same may be correctly stated of those women who perspire very copiously, who are ordinarily free from the attack of this form of fever, or, at least, who generally have it very slightly.

The treatment of a milk-fever ought, in some sense, to be purely hygienic. When the secretion of milk is very considerable, and the woman does not give suck, she ought to be subjected to a severe diet, to take demulcent and slightly diaphoretic drinks, such as infusion of mallows and linden, of violets and orange flowers, with gum-arabic. Should the fever prove to be too violent, it might be moderated by a small bleeding at the arm, yet, in general, it requires merely the care above indicated.

In cases where the breasts are too much swollen and painful, attempts should be made to empty them by allowing the infant to draw them, and where the woman does not nurse, by rubbing them gently with warm olive-oil, and covering them with fine tow, or a lawn handkerchief, kept on with a soft napkin. Care ought to be taken to change the dressing as soon as it becomes moistened. The flow of the lochia ought, at the same time, to be promoted by means of fumigations to the vagina, or, what is still preferable, with emollient narcotic injections, prepared with mallows and poppy-heads. These measures ought to be put in force, especially where the lochia is suspended, either before or subsequently to the coming of the milk.

After the milk-fever, the tongue is white, yellow or greenish, the mouth bitter and clammy. Should there be, likewise, a loss of appetite, the medical adviser might advantageously order a mild purgative dose, such as manna, castor oil, Seidlitz water, sulphate or phosphate of soda, and even the sulphate of potash, which, whether well or ill founded, enjoys a very long-standing reputation as an antilactic article. In cases where the tongue is red and lanceolate, with indubitable signs of a gastro-enteritis, the action of these purgatives will always be noxious, and they should be therefore proscribed. In like manner, they are not of any value where the strength and appetite return rapidly and manifestly.

The other kinds of supposed antilactic articles, such as the periwinkle, which quickens the pulse and weakens the stomach, ought to be forbidden; nevertheless, we might allow the patient to take a tisan of the arundo donax, provided she have some confidence in its powers, for its action is nearly insignificant and inoffensive.

## OF PUERPERAL PERITONITIS.

This inflammation of the peritoneum differs from other kinds of peritonitis only in the circumstance of its following the delivery of the woman.

Notwithstanding this malady must have existed in all ages of the world, it seems to have been wholly unknown until the time of Hippocrates. That illustrious observer, in the second book of his treatise on the diseases of women, has presented us with a pretty good description of it, which proves that the principal characteristics of the malady had not escaped his notice, but that he regarded it as an acute affection of the uterus, brought on by the suppression of the lochia, or by a laborious labour. This opinion of the Coan sage was reproduced by Galen, Celsus, Aetius, Aretæus, Pouteau, Bosquillon, and Lamothe.

Chaussièr, Messrs. Cayol. Chomel, Velpeau, and many other writers justly suppose that puerperal peritonitis is very often a consecutive of metritis. Weikard and Horn, agreeably to the doctrines of Brown, look upon the disorder which, by Strother and Willis, was described under the vague title of puerperal fever, as being in its nature essentially asthenic. Vigaroux, Etmuller, Puzos, Levret, and especially Doublet, having noticed that the lochia were not suppressed in all cases, while, according to their view, the milk secretion is invariably arrested, came to the conclusion that a peritonitis is merely a metastasis of milk to the abdominal cavity. Michaelis endeavours to prove, in his memoir, published about the beginning of the present century, that both the cause and the gravity of the disease depend solely, in recently-delivered women, upon the accumulation of the lactic principle in the mass of the blood.

There is no doubt, at present, that nearly all the cases designated by authors, under the appellations of puerperal fever, inflammation of the bowels, metastasis of the lochia, or metastasis of milk to the abdominal cavity, were real cases of puerperal peritonitis, a denomination under which modern physicians designate an inflammation of the peritoneum coming on after parturition.

A very great number of recorded cases go to prove, that although this disorder is often simple, yet in many instances it is complicated with metritis or with uterine phlebitis; that is to say, the peritoneal inflammation is a secondary occurrence, and takes place only by contiguity or continuity. We shall, hereafter, point out the means of distinguishing a simple peritonitis from an attack of metro-peritonitis.

The causes of peritonitis ought to be divided into predisponent and occasional causes; among the former ought to be classed the state of pregnancy, errors in diet, a sedentary life, domestic anxiety, too exciting a diet, or diet of a bad quality; prolonged inhabitation of a dark, damp, cold house, where the air does not circulate well; the abuses of coïtus; lastly, a plethoric temperament, a very great mobility of the vascular system; a delicate constitution, which has been weakened and rendered easily liable to become disordered, are also

looked upon as predisponent causes of the disease at present under consideration.

Among the determining causes we must place the energetic contractions of the muscles of the abdomen, concurring in the power to expel the fœtus, the action of cold, the influence of a tampon made use of in arresting hæmorrhage after delivery; a long and difficult labour; an extreme degree of confidence inspired by a happy delivery; the remaining of the lochia within the womb for too long a period; too much company and conversation soon after delivery; imprudence in rising too soon from bed after the birth of the child, and engaging in any exercise too soon, and before the womb can have resumed its ordinary position and recovered its non-gravid volume; moral impressions of too severe a character, which are the more dangerous on account of the augmented impressibility of the newly-delivered woman; the too sudden suppression of some usual evacuation, as the insensible perspiration, the lochia or the milk; cold applied to the whole body, and chiefly to the breasts, the vulva, and the abdominal muscles. It should be added, that the impression of cold and damp is one of the most frequent causes, and that, according to the cases published by Delaroche, more women die in child-bed in winter than in the warm seasons. Savary assures us, that puerperal peritonitis is a very rare disease in Egypt; and Dr. Solly says, that he saw no case of it in South America, where he resided for about three years.

Puerperal fever sometimes becomes epidemic in hospitals devoted to lying-in women. Although the causes that give rise to it are perhaps unknown, they appear to be absolutely local, and to be connected with the influence of a vitiated atmosphere, for, in general, such epidemics do not extend among females in the same city, nor among women inhabiting private houses, or among such as are in other hospitals. Several epidemics of this sort have occurred at Paris, at the Hotel Dieu, at the Maison d'Accouchements, and also at the Hopital de l'Ecole. Broussais says, he met with an endemic peritonitis in certain parts of Holland and Belgium.

[The history of the epidemic at Aberdeen, by Gordon, and that at Leeds, by Hey, as well as the Sunderland epidemic, described by Dr. Armstrong, are very conclusive as to the power of the malady over patients in private houses. It is well known, also, that puerperal fever has been epidemic in various parts of the United States for the last three or four years.—M.]

The symptoms of puerperal peritonitis are pretty much the same as those of other forms of the malady, for they only differ as to the suppression of the milk and the lochia; although this pathognomonic symptom is not invariably present, and may, indeed, occur in other maladies coming on not long after delivery. Indeed, the lochia may continue to flow in abundance, and we, as well as White, Leake, Chaussier, Dubois, Deneux and others, have seen the breasts continue swollen and full of milk up to the last moments of existence.

The invasion of puerperal peritonitis generally takes place from

the second to the 5th day after the accouchement; it may, however, come on at a much later period, as the tenth, fifteenth or twentieth day. Pinel speaks of a nurse, who was seized with it at the end of her thirteenth month. It may also happen, that the disorder comes on immediately after the termination of the labour; we saw a patient who gave birth to twin children, in whom the attack of the malady was made several hours previously to the commencement of labour. Be these circumstances as they may, an assault of puerperal fever is announced by a general sense of lassitude, uneasiness and weakness; by headache, vague horripilation, *intermittent chills*, attended with tremors and numbness of the limbs, and followed by that burning and internal heat, which is almost always felt in inflammation of the serous membranes. These signs are soon followed by pains in the abdomen, that are more or less sharp, and that are felt at various points in the belly, which will not tolerate the least pressure; the patient compares her pain to a feeling of twisting, burning and laceration, which is increased by motion, coughing, hiccough, sneezing, and especially by the action of vomiting, and any motion that disturbs the relations of the peritoneum. The patient lies on the back, and likes to have the head well raised on pillows, and instinctively seeks to have the knees drawn up so as to relax all the muscles. All these pains are attended with ardent heat, excessive thirst, cephalalgia, and piercing and broken cries; the respiration is short, laborious, plaintive, costal, incomplete; hiccough is inevitable, provided the portion of peritoneum that invests the diaphragm is affected with inflammation; the skin is sometimes moist, but more generally it is dry; all these symptoms coincide with diarrhœa, or constipation, with vomiting, with meteorismus, tumefaction, and tension, greater or less, of the belly, and frequently with a contraction of the anus. The countenance, which is altered, pale, and downcast, becomes covered with a cold sweat, and always bears the impress of suffering. All the features seem to be drawn upwards, and *towards* the median line, and give the true type of the *facies* designated under the title, (*face grippé*,) contracted countenance. The lochia becomes suppressed or diminish in quantity, and the flaccid and occasionally painful mammæ contain either no milk or but a very small quantity of it; the pulse is small, contracted, frequent, concentrated, and often irregular and intermittent; however, in some rare cases, the circulation is almost undisturbed, and becomes accelerated only on the approach of dissolution. The urine is red, turbid, scanty, and comes off with smarting pain. The pituitary membrane is dry and blackish; the tongue, after becoming fuliginous, pointed, tremulous and fissured, loses its normal characters of form and colour. The mental faculties frequently remain sound until the death of the patient; but in almost all the patients we observe a feeling of consternation, discouragement and moroseness, and sometimes delirium, extreme agitation, convulsions and subsultus of the tendons. In fine, the eye, whose mucous membrane is often observed to be dry and brownish, with the pupil gradually dilating, does, in some cases, exhibit the appearance of death, and remains motionless, and some-

times upturned. Should all the symptoms here enumerated, when taken separately, not characterize a case of peritonitis, the physician should found his judgment only upon the whole of them together; and he should never forget this precept of the father of medicine, "*Non ex uno signo, sed ex concursu omnium.*"

In the progress and termination of puerperal peritonitis there is great variety. Yet it mostly runs through its periods with rapidity, and in some instances is so intense, as to carry off the victim in two or three days. It is true, however, that in some cases it is protracted through a period of from five to ten or even twelve days, and has even been known to last beyond the fourteenth day.

The disease may terminate in resolution, suppuration, or gangrene, or it may pass into a chronic state, [he ought to have added the termination by adhesion.—M.] The termination by resolution, which is the rarest, the most favourable, and, consequently, the most desirable, is announced about the fourth day or up to the sixth, by diminution of the pains and other symptoms, by softness, slowness and fulness of the pulse, by re-establishment of the lochia, and of the secretion of milk, and by the ability of the patient to lie with ease either on the back or side.

The termination by suppuration, which is one of the most common, and, unfortunately, too often disastrous results of the disease, occurs where the pain and tension of the belly become less, where the pulse, though still frequent, becomes soft; where the patient has slight irregular chills, with coldness of the extremities; and, lastly, where there comes on a feeling of weight in the hypogaster. No doubt as to the existence of fluid remains, when it escapes through some opening, or when its fluctuation becomes evident through the parietes of the abdomen.

The termination in gangrene, which is the rarest, and which involves the inevitable death of the patient, may be suspected where the sensation becomes dull, where the pains cease suddenly, where the abdomen becomes smaller, though the discharges be not reinstated, and lastly, where a sense of coldness takes the place of the burning heat, while the pulse at the same time grows weak and intermittent, and the features become more decidedly altered. Attacks of vomiting come on, attended with delirium; the sphincters relax, and admit of the escape of insufferably fetid matter, accompanied by a treacherous calm, in the midst of which the patient expires.

Where an attack of peritonitis does not increase in violence, but yet continues to prevail, it passes into a chronical form. This is a sort of imperfect termination, which may be known by the following signs: the abdomen continues painful to the touch, and somewhat tumid, or else it becomes more and more tympanitic. Sometimes there are intervals of calm, which lead to the supposition that the cure is at hand; but the pain, nausea and vomiting recur from time to time; the loss of flesh, and emaciation, become extreme; at length a colliquative diarrhœa comes on, attended with a low continued fever, with consumption and marasmus; the effusion goes on, and

the patient becomes gradually extinct. In fine, cases are to be observed where dropsy, which often becomes general dropsy, is developed, and sometimes, towards the close, the disease becomes exasperated, and again assumes the acute character.

We ought to observe, likewise, that a chronic peritonitis may manifest itself upon a lying-in, without being preceded by any acute symptoms; in such a case, it is evolved slowly and insensibly; the abdomen is painful only upon pressure, or when startled by some considerable shock. However, there are cases where the patient suffers fixed pain, attended with heat, elevation of the pulse, which is accelerated, especially towards evening. In fine, she has dyspnœa and cough, particularly when lying down. Under such circumstances, there is reason to suspect that effusion is taking place in the abdomen.

The diagnosis of puerperal fever is, beyond contradiction, the most important item in its history. The disease may be distinguished from metritis, in respect that in the latter the pain is dull, gravative, and confined to a small space in the hypogastrium. Where this is the case at first, yet the pain afterwards extends over the whole surface of the abdomen, the metritis is complicated with peritonitis; the interior of the vagina communicates to the finger, as it does in metritis, the sensation of an acrid and burning heat; the os tincæ is swollen, tense and very sensitive. A case of peritonitis may, likewise, be distinguished from one of uterine phlebitis, which often complicates it, by the acuteness of the pains, and by their extending to all parts of the abdominal cavity. Œdema of the lower limbs, and especially a considerable development of the external and superficial veins of the abdomen, are signs that best characterize the case of uterine phlebitis.

The *prognosis* of puerperal peritonitis generally leaves little to hope for; yet, notwithstanding the dangers to which it exposes the patient, it may be considered as favourable, where the volume of the belly grows less and less, where the lochial discharge returns, where the secretion of the milk is restored, and, lastly, where some of the symptoms are absent, where the pain becomes less acute, where it is felt over a smaller extent of surface, and where the pulse loses its frequency. In general, the disease is the more dangerous as the inflammation is more extensive, and as the period of its development approximates to the moment of labour. It is always mortal when it commences before the pains of parturition, and, particularly, when the female has a twin pregnancy. The prognosis again is generally favourable, if the affection present no remarkable sympathetic phenomenon, for a prompt and energetic treatment usually arrests its progress. In any case, it is difficult to make a positive prognosis before the fifth, eighth or tenth day of the disease, since before that period we cannot ascertain its probable course or duration. As to the prognosis of chronic peritonitis, it is always unfavourable, in consequence of the disorganizations which it occasions; nevertheless, cases have been observed which prove that it may be cured; but then its true character has been recognized early, and moreover, it is of a simple

form, without complication, and without considerable effusion; and if fever exists, it is accompanied by hectic phenomena.

The *anatomical characters* of puerperal peritonitis are the following: if the female have died from a very acute attack, one severe enough to destroy life in thirty-six or forty-eight hours, which is rare, the serous membrane often presents no trace of alteration, either in its colour or organization. The peritoneum may even seem to be entirely healthy, or to be merely slightly dry and red; but when death has been less sudden and prompt, that is to say, when it has not occurred until the third or fifth day, the intestines are retracted upon themselves; the vessels which ramify upon the peritoneum are red and congested, particularly at the points where the inflammation has been most active. Non-organized false membranes and small abscesses and collections of serum are sometimes met with in the uterus, broad ligaments, Fallopian tubes and ovaries. Often, also, the cellular layer which unites the peritoneum to the abdominal walls and viscera is distended by a gelatinous fluid and by a limpid, thick, or reddish and more or less abundant serosity, in such a way as completely to isolate the serous membrane. Lastly, in some cases, are found lactiform collections, in which float whitish flocculi, resembling whey that has not been strained. It was the colour and milky appearance of this fluid, indeed, which caused Willis, Puzos, Levret, Doublet, and some others, to fall into the error of regarding these collections as the result of a deviation and metastasis of milk into the peritoneal cavity. They supposed that the lactescent urine and whitish matters which some women, affected with peritonitis, pass by stool, must have come from the same source.

In chronic peritonitis, the congested membrane is thickened and dotted over with whitish granulations; the intestines are glued together, as it were, and united so as to form a mass, and, between the folds of the peritoneum is found a yellowish, muddy, purulent and greenish fluid, holding fragments of false membrane in suspension. Lastly, in some cases the peritoneum has a lardaceous and cancerous appearance, and the inter-peritoneal tissue of the epiploon is often the seat of ulcerations more or less numerous.

The prophylactic *treatment* of peritonitis consists in removing recently-delivered women from the influence of the causes which produce it. Those, for example, who are deprived of the happiness of nursing their own children, ought to be subjected to a rigid diet; they should avoid, as much as possible, the visits of friends, cold, excessive heat, noise, odours, and we should endeavour to prevent the vivid emotions of the soul, which make an impression the more unfavourable to women in childbed, because their nervous mobility is at that time greatly augmented. Lastly, the disease may often be prevented by advising women to suckle the child.

The *curative treatment* of this acute disease ought to be the more prompt, energetic and skilfully conducted, because its symptoms are formidable, its progress rapid, and its danger always great. The treatment ought, therefore, to be essentially antiphlogistic, and to consist, first, of a large bleeding, to be repeated more or less fre-

quently, according to the intensity of the inflammation, the hardness of the pulse, the pathological sympathies which occur, and the strength of the patient. This first indication fulfilled, there should be applied to the abdomen, at one, two, or three different times, from forty to one hundred and fifty leeches, according to the constitution of the patient and the violence of the disease. Leeches to the vulva are likewise very useful in relieving the engorgement of the uterus and recalling the lochia; but it is necessary, in all cases, to precede their application by one or two large bleedings at the arm. It is by the energetic employment of these means especially, that we must endeavour to regulate the disease at its very beginning, because, in a few days, sanguine emissions are no longer so efficacious, and when there is complete prostration of the strength, may even augment this condition and render the death of the patient more rapid. We must resort, at the same time, to emollient and narcotic fomentations, to mucilaginous, acidulated and tepid drinks, and, lastly, to the most rigorous diet. The iced applications and aspersions, and the cold baths recommended by Van Swieten and Broussais, seem to us to be dangerous, and likely to produce gangrene. Warm baths are rarely endowed with the utility attributed to them, and their action often turns against the patient. In fact, the weight of the liquid, the impression of the cold, the painful position and the displacement which they require, seem to us motives sufficient for their rejection. Enemata of decoction of marsh-mallow, of flax-seed or of poppy-heads, may assist the treatment; but they ought not to be used in the first days of the disease, as they increase the pain, and the greatest care should be taken, in administering them, not to disturb the patient, and to inject only a small quantity into the large intestine at once; that is to say, to use only a fourth, or, at most, half of the usual quantity.

Should the patient be so irritable that the drinks, even when taken in very small quantity, are rejected by vomiting, we must, in order to avoid, as much as possible, the violent succussions so produced, allay the thirst by means of slices of orange, or by a few spoonfuls of Seltzer water. It is well, also, to promote, as much as possible, the secretions from the mucous membranes, by means of warm sudorific drinks; and we should endeavour, in particular, to excite the action of the skin by vapour-baths, which were successfully employed by Chaussier.

The injurious effects of epispastics applied to the abdomen, in the acute stage of peritonitis, should lead us to avoid their use; they should be employed only when the disease has become chronic, or in the second stage of the acute form.

To remove the constipation, we may resort to the use of enemata of oil, or to mild laxatives; especially, after the example of Chaussier, to castor oil, mixed with equal parts of syrup of succory or rhubarb. The use of drastic purgatives, recommended by the English writers, ought to be proscribed in all cases; they, however, employ, with advantage, calomel in divided doses.

The use of emetics, principally ipecacuanha in emetic doses, recommended by Doublet and Doulcet, can be beneficial only during

the earliest stages of the disease; given later, they aggravate the symptoms by the efforts at vomiting which they occasion. The method of the above physicians consisted in giving, at the appearance of the earliest symptoms, twelve grains of ipecacuanha in two doses, and repeating the emetic several times, according to the obstinacy of the case. We ought to remark, that the success of this mode of treatment has not been proved, and that most of the physicians of the present day have renounced it.

We have still to speak of a most valuable therapeutical agent, to wit, mercury, employed first by Armstrong, Vandeusande, and, more recently, by Professor Velpeau, who has shown all the advantages of frictions of the abdomen with mercurial ointment in the proportion of from one to two drachms, repeated every two or three hours.* Eight or ten grains of calomel, daily, may be given at the same time, while continuing, with great exactness, the mercurial frictions, up to the disappearance of the morbid symptoms, which generally diminish when the salivation begins to be established.

The spirits of turpentine also has been recommended, both internally and in the form of enemata, by Douglas Kinneir and Mayer. It may be prescribed in mixture, prepared in the following manner:

Take Spirits of Turpentine, an ounce and a half; Narbonne honey, two drachms; water, two ounces. One-third to be taken at intervals of two hours.

When peritonitis terminates by resolution, the physician has merely to watch the disease and encourage the favourable actions which may tend to make their appearance. In the termination by suppuration, the patient is destined to certain death, unless, what is unfortunately very rare, the pus escapes externally. Therefore, as soon as fluctuation becomes evident, we should endeavour to imitate nature, by performing the operation of paracentesis. Again, when the disease passes into the chronic form, the employment of leeches, of rubefacients, of dry frictions to the skin, of vesicatories to the thighs and abdomen, of mercurial frictions, and of baths of different kinds, may assist in the treatment, and bring about a cure, which is rare, but not always above the resources of the art. When the serous effusion becomes considerable, diuretics ought to be prescribed, and tapping should be performed at an early period, if the fluid is not absorbed. It is well to add that, in cases of acute peritonitis, we may assist the flow of milk in the breasts by keeping them warm, by covering them with cups, and especially by frequent drawing. We might also endeavour to remove the meteorism, by means of a large gum-elastic catheter, kept a longer or shorter time in the rectum, so as to give issue to the gases that distend the intestines.

## OF UTERINE PHLEBITIS.

Of all the diseases which occur after labour, uterine phlebitis is certainly one of the most frequent and most dangerous. Obscure in its symptoms, insidious in its progress and complications, it was mis-

* Revue Médicale, January, 1837.

understood by the ancients, who, being destitute of the aid of pathological anatomy, could have only uncertain ideas as to the nature of the affection. Though partially understood by Leake, Chaussier, Schwilgai, Clarke, Wilson, Meckel, M. Ribes, and Husson, it had nearly been forgotten when Dance, and, after him, M. Tonnelè, recalled the attention of physicians to it by publishing several cases, which render its history complete. Since then, all the cases have been more than confirmed, by the labours of MM. Breschet, Andral, Louis, Cruveilhier, Perreau, Carget of Pampeluna, and some others.

Amongst the causes of uterine phlebitis, should be ranked a long and difficult labour, during the expulsion of the fœtus, and certain individual predispositions; long-continued pressure of the head of the child against the neck of the uterus; cold and humid temperature, especially during winter; crowded lying-in wards; lastly, tractions exerted upon the placenta, immediately after delivery, in such a way that the uterine veins, separated too suddenly from the parts with which they are in contact, remain patulous and in direct communication with an inflamed surface, with the lochia, or with clots of decomposed blood, and sometimes with putrefied and softened portions of placenta. In all these cases, the uterine veins are nearly in the same circumstances as when they are near an ill-conditioned wound, and consequently in a state to invite inflammation.

To these causes of uterine phlebitis, we will add the injection of iced and astringent fluids, into the cavity of the uterus, to arrest a dangerous hæmorrhage; suppression of the milk; compression of the hypogastric region; indulgence in improper diet; premature exercise; the excessive susceptibility of recently-delivered women; and, lastly, any imprudence committed by them, after delivery, and particularly latent inflammation of the mucous tissue, or of the proper tissue of the gestative organs.

*Progress and seat.* Inflammation of the veins of the uterus generally commences at the orifices of the uterine sinuses, exposed by the separation of the placenta, as an amputation exposes the veins of one of the limbs. The inflammation soon extends to the veins, into which the uterine sinuses empty, which, by contiguity, transmit the inflammation to the proper tissue of the uterus, which constitutes a parenchymatous uterine phlebitis, complicated with metritis. We ought to remark, however, that the last affection may precede the phlebitis, and that this may extend beyond the limits of the walls of the uterus, follow the direction of the uterine veins furnished by the hypogastrics, and often extend along the ovarian veins to the inferior cava. It is proper to add, moreover, that the phlebitis may exist upon one side of the uterus only, and that it is generally the right side which is affected, probably because the insertion of the placenta takes place more frequently on this side than on the left.

The *symptoms* of uterine phlebitis vary according to the stage of the disease; in the first stage, the disease, which is purely local, ordinarily manifests itself from the second to the third day by the symptoms of metritis, that is to say, by irregular rigors, by constant feeling of weight in the lumbar region, and by pain confined to the

hypogastrium and iliac fossæ, often on one side only, which is that to which the insertion of the placenta upon the womb corresponds. To these symptoms must be added sudden suppression of the lochia, shrinking of the breasts, smallness and frequency of the pulse, dryness of the skin, redness and dryness of the tongue, engorgement of the uterine tumour, which augments, instead of diminishing, as the inflammation advances; lastly, a discharge of puriform, thick, and generally fetid matters from the vulva; tumefaction and pain of the cervix uteri, and sensibility of the hypogastrium, which is more acute than that which is usually present after delivery.

The second stage, which is that in which suppuration takes place, is marked by diminution of the local pain and by the development in the digestive tube of gaseous products; lastly, the third stage, marked by the absorption of pus into the torrent of the circulation, presents general symptoms of a more dangerous character; for there is at that time excited imagination, and generally delirium; the skin assumes an earthy hue; the eyes are sunken, and the pupils dilated; the face is pinched and covered with a cold sweat, and, moreover, there occurs a sort of insensibility, which renders the patient unconscious of pain; sometimes the limbs become the seat of sudden swelling, of evident fluctuation and painful induration, bearing all the marks of a deeply-seated abscess. Later in the disease, all the symptoms become aggravated, the extremities grow cold, the pulse more frequent and compressible, and to these various symptoms are added loquacity, a constant sardonic laugh, picking at the bed-clothes, singultus, fainting, and death, which terminates the scene.

The *diagnosis* of phlebitis in the first stage differs but little from that of metritis, and it is by the symptoms which denote the introduction of pus into the circulation alone, that the existence of phlebitis can be demonstrated. The extension of the disease to the large venous trunks may be inferred, when œdema of the lower extremities, and a peculiar puffiness about the pelvis, exist. Again, there is a sign of considerable value in the diagnosis of phlebitis, which is the development of the external and superficial veins of the abdominal walls; moreover, venous inflammation is distinguished from peritonitis, by the acuteness of the pains in the latter disease, and especially by their extension to the whole abdominal cavity. To conclude, in phlebitis the delirium is greater, and the rigors which precede suppuration in the uterine veins are more marked, and return periodically, as in an attack of pernicious fever, which is not the case in peritonitis.

The *prognosis* of the disease under consideration is as uncertain as its duration; nevertheless, it may be regarded in general as being very unfavourable, though in many cases we might arrest its progress at first with as much facility as in ordinary phlebitis. But the uncertainty of the diagnosis in the early stage, and especially the failure of the patients or their friends to ask for advice, render the prognosis almost always unfavourable. In general, when the inflammation is confined to the veins of the uterine walls, we may hope for much from the resources of the art and the efforts of nature; but

when it extends to the spermatic veins, purulent absorption and its consequences are much to be apprehended. This phlegmasia, in a word, is always more dangerous than simple metritis. It usually terminates during or towards the end of the third week; but it may also last a much longer time, and prove fatal four months after its commencement, as is proved by the tenth case reported in the essay of *M. Dance.*

The *cadaveric lesions* vary according to the duration of the disease. When it has lasted but a short time, the point of insertion of the placenta is red and covered with a blackish putrescent matter; the uterus is always larger than it ought to be at the time which has elapsed since the delivery, and the uterine veins are pustulous and contain more or less pus. If the phlebitis has existed for some time, the tissue of the uterus is softened, and when cut into and squeezed, drops of pus are seen to exude; pus is often found, also, in the spermatic, and in the external and internal iliac veins, and sometimes the cavity of the abdomen is the seat of a sero-purulent effusion, and the muscular interstices of the superior and inferior extremities and the articulations even, likewise present extensive purulent deposits. Lastly, the brain is more or less congested, and in some cases the spleen, liver and lungs are also involved in the suppuration.

The *treatment* of phlebitis must vary according as the disease is in the first period of the symptoms or in the two others, to wit, in that of suppuration or of the passage of pus into the torrent of the circulation.

The treatment of the first period consists in the use of general bleedings, in the application of leeches to the vulva, to the inside of the thighs, and to the anus, and in the energetic employment of all the antiphlogistics, such as frequently-repeated emollient injections, baths, poultices sprinkled with laudanum for the hypogastrium, rigorous diet, demulcent and sedative drinks and mixtures, and, lastly, the withdrawal of all causes which might irritate or disturb the patient.

During the period of suppuration even, general bleeding is sometimes useful; but it is the administration of tartar emetic and ipecacuanha in large doses, which promises the best chances of success. We once had occasion to observe the good effects of tartar emetic, as MM. Nauche and Nouat had done before us. To these means might be added vaginal injections of some solution charged with chlorine, and if symptoms of purulent absorption were present, it would, perhaps, be proper to attempt transfusion of the same liquid into the veins in the neighbourhood of the affected part, in order to endeavour to snatch the patient from certain death. We might likewise resort to the employment of powerful revellents, to sinapisms, to blisters applied to the thighs and legs, or to sudorifics and all the excitants of the cutaneous system, especially to the acetate of ammonia, in the dose of five or six drops in a cup of tisan; it would be proper to associate with these means remedies having a sedative action upon the nervous system, as, for instance, camphor, assafœtida,

cinchona or any of the bitters; lastly, if the uterine phlebitis were complicated, the treatment should be modified according to the nature of the complications. It is well to add, moreover, that, notwithstanding the prostration and feebleness of the pulse, general bleeding may sometimes prove useful, for it has been proved by experiments upon animals, that sanguine evacuations were one of the best means to modify the evil effects of the introduction of putrid matters into the circulation.

### OF OTHER KINDS OF PUERPERAL PHLEBITIS.

Phlebitis occurring after delivery has also been observed in the hypogastric, external iliac, and primitive iliac veins, in the *crurales* and in the inferior cava. The disorder may be known by the swelling and pain discovered along the track of the inflamed vein, by the swelling of the adjacent cellular tela, and which in some instances extends over the whole limb; and likewise by a sensation resembling that produced by feeling a sort of cord running in the direction of the vessel, and which rolls under the finger. The causes of the different kinds of puerperal phlebitis are the same as those that give rise to uterine phlebitis; they are therefore to be treated by like measures, such as general blood-letting, the application of leeches to the hypogaster, which should be resorted to immediately upon the appearance of the symptoms, and repeated until the pain ceases; by emollient cataplasms, and protracted use of the bath, continued as long as three or four hours; by irrigations into the womb, by means of a proper syringe, and, finally, by the employment of gentle purgatives.

[I have deferred until the present occasion, the addition of any note upon the subject of puerperal fever, and perhaps I might have spared the reader the present addition, were it not that I feel very desirous to place in as clear a light as possible the therapeutical considerations that flow out of the view of these affections which regards them as diseases of an inflammatory type.

Among the numerous individuals who have made public their opinions, and the experience on which they were founded, great discrepancies are found to exist. One party pushing the use of the most vigorous antiphlogistics to the utmost; another recommending their very cautious use, while others seem afraid of them, except under the most guarded limitations.

So far as I can learn, a discrepancy, equally as great as that among foreign writers, exists in the profession on this side of the Atlantic. The question as to the nature and treatment of childbed fever being a most important one, we believe that we shall confer a benefit upon the public at large, and upon our brethren in particular, by calling their attention anew to the subject.

So rapid and fatal in their course have been the epidemic and even the sporadic forms of puerperal fever, and so evident and early have been the signs of great prostration, or exhaustion and mortal proclivity of the vital powers, that we have no room for surprise at the tendency of mankind to view them as *ataxic* or *typhous* in their very nature; and so requiring, on

that account, a careful avoidance of strong antiphlogistic or debilitating measures. The idea of typhus is inseparably connected, in many minds, with that of great muscular weakness, tremors, dry tongue—with stimulants and cordials, and all the means of rapid reparation. In such persons it is enough to know that to-morrow the patient will be weaker, in order to lead them to obviate that fearful debility to-day by opium and brandy, and an alexipharmic course, and beef tea, &c. &c. Dr. Wm. Hunter, who saved but one case out of thirty-two, persisted to the last, according to Dr. Mackintosh, in beginning the treatment with a generous glass of brandy; and there are many gentlemen who, having repeatedly seen the belly filled with the fluid deposits of extensive peritoneal inflammations, and the veins gorged with pus, the product solely of inflammation, still contend that the employment of venesection is *very dangerous*, and requires great consideration of the constitution and habits of the patient, and is to be practised only on the most favourable subjects. Not only are there to be found respectable brethren holding these views, but even of those who preach the opposite doctrines, there are many who, though bold in recommending the lancet to others, yet, in their own practice, stop short of the free use of this measure.

The mischievous effects of error are continued long after the error itself is overthrown: a man who has been trained, by bad teaching, to look upon a grave disorder as of a typhous nature, and therefore to be treated by stimulating means, finds it very difficult to liberate himself from the rules of action imposed by his early prejudices, which continue to bias his practice even long after his judgment has been fully enlightened.

At the present day, we know that women in childbed are liable to attacks of chills or rigors, followed by pain in the region of the womb, with a very frequent pulse, rising speedily to 120 or 150 beats per minute; and soon after by distension of the abdomen, pain, and other symptoms, which mark the childbed fever. This fever proves fatal to many of the patients attacked with it; and the examinations of the bodies of those who die reveal either extensive inflammation of the peritoneum alone, or of the womb alone,—or of the womb and peritoneum both. In some of the cases the womb is proved to have become gangrenous or softened by inflammation; and in others, and many of them, its veins, and the veins returning its blood, are greatly inflamed and filled with inflammatory deposits of lymph, or gorged full of pus. Deposits of pus are also, in some of the cases, found in the ligamenta lata, in the womb, in the thorax, or in remote parts of the body; to such extent, indeed, as to have given rise to the idea of a pyogenic or pus-creating fever. The absorbent vessels are also found to be affected in a manner similar to that of the veins.

Diseases of childbed like these have been noticed from time immemorial by writers of great ability. Faint and imperfect views of their nature, and some approaches to good sense in their treatment, as by Strother, had been obtained, but lost sight of again and again, until a great reformer of doctrine,

as regards them, appeared in Scotland. I allude here to Dr. Alexander Gordon, of Aberdeen.* This gentleman, who enjoyed an extensive practice there, and in the country round about it, encountered a severe epidemic of puerperal fever, which, from December, 1789, to March, 1792, prevailed epidemically at and near Aberdeen. The first cases he treated without energy and without success. Taught by woful experience the inadequacy of his method, and enlightened by dissections of a few of the early victims, he adopted a more energetic practice, which was founded on the substantial proofs of inflammation revealed in the dissections. It consisted of free bleeding from the arm, aided by the use of purgative medicines. The result, to use his own language, was as follows: "When I took away only ten or twelve ounces of blood from my patient, she always died; but when I had the courage to take away twenty or twenty-four ounces at one bleeding, in the beginning of the disease, the patient never failed to recover, as was the case in No. 23, 28," &c. &c. In another place he says, after citing the results of practice in other countries—"In my practice, of seventy-seven women who were attacked with puerperal fever, twenty-eight died; so that very near two-thirds of my patients recovered, which proves that I have been much more successful than any other practitioner. But it will be proper to mention that I was too late in being called to many of the cases, and that I had a fair trial only in fifty of the above number: of these fifty, only five died."

Dr. Gordon's volume is small, and is written without arrogance or great pretensions. It is a plain and, doubtless, a candid detail of his concern with that epidemic; and has so convincing and truthful an air in every page and line, that I cannot imagine any thing more fitted to impress the mind of a reader with the warm and irresistible convictions of the author. Fifty years have elapsed since its publication. It is always quoted or referred to in treatises on the same topic, and still retains its good name. Every medical practitioner ought to read it, and I was almost ready to say that its perusal ought to be regarded as indispensably necessary to a right understanding of the history and treatment of puerperal fever. Whatever critics may say as to Dr. Gordon's performance, and however wofully several eminent writers and practitioners may have erred in their theories and practice, Gordon will be regarded as the reformer of the therapia of puerperal fever; for it can scarcely be denied that, since his publication, there is a more perfect and understood conviction of the inflammatory character of this disorder, and of the little regard to be paid to the state of the pulse in making up one's mind as to the necessity for treating it boldly in the first stage. The work, precious as it is, has long been out of print; and I cannot conceal the satisfaction I feel at the fact of its having been placed at a cheap rate in the hands of numerous practitioners in our country. M. Legouais, in his admirable and spirited treatise on the subject, pays a just tribute to the merits of

* Author of the History of the Puerperal Fever of Aberdeen. London, 1795. 8vo.

this author; and, as he had the most abundant and fortunate opportunities, by a residence of several years in the *Maternité* at Paris, to witness the practice and carry out the directions of Chaussier, in the malady, I should conceive that his experience alone, unaided by the fine arguments of his volume, should constitute him a high authority. When I read Legouais's excellent work, I am disposed to thank Gordon for it, as I am for every other valuable rule of practice in this most distressing disease. Nothing since Gordon's work, that I have seen, detracts from his merit by comparison. Few American physicians yet possess it.

Gordon had not the leisure or the privilege requisite to make very numerous and elaborate dissections. This task, however, has been well fulfilled by Robert Lee, of London, in his *Treatise on Puerperal Fever and Phlebitis;* to that degree, indeed, as to leave but little to be desired. All these researches have but added strength and assurance to the conviction derivable from Gordon's essay. These new and more minute inquiries, which proceed so much farther than he had gone, ought to be fully known by the medical fraternity. But it will not suffice to know only the later productions of the press. I do not believe that the writings of Hey, of A. Baudelocque, of Armstrong, Mackintosh and Lee, studied alone, could carry such a weight of argument to the mind as their perusal after Gordon would do; he is the first in the series, and the others wait on him, and honour themselves by illustrating him. *Palmam qui meruit ferat.*

It is obvious that the death of a puerperal patient is, in general, more to be deplored than the ordinary fatalities met with in practice. A woman, under these circumstances, appears to have a stronger claim on life; and the disruption of the ties which bind her to society, and to her friends, is more painful, from the new relations just established with them. If the child survives, it suffers, during the long period of infancy, childhood and puberty, the bitter fruits of this terrible privation; while the breaking up of the domestic establishment, which usually follows that event, appeals, with irresistible power, to the public sympathy. Each family is a little patriarchate, state or kingdom; and the domestic catastrophe has, within its proper pale, all the importance of a great political overthrow. It is a great misfortune to lose a patient in childbed.

Those diseases, therefore, which, by their attacks, expose women to an imminent danger of death in childbed, ought to be carefully studied by medical men; and the physician should be deemed inexcusable, who undertakes the management of them without a due, nay, an unusually careful preparation for the enterprise. He ought not to confide alone in his own keen perceptions at the clinic, nor in the results of his own most imperfect experience. He is obliged, by his vocation, to take up a position which he ought fully to examine and render secure before he enters into the conflict with so dangerous an enemy.

I refer to the statements in the volume of Robert Lee, for accounts of the

mortality produced in some parts of Great Britain, and on the Continent, by puerperal fever. Those gentlemen who, in our own country, have had occasion to observe it either as an epidemic or sporadic disease, will require no further incitement to a perusal of the volumes recently published by Barrington & Haswell. They will see Gordon's success, who, by the antiphlogistic treatment, was able to save forty-nine out of seventy-seven cases; or, rather, forty-five out of fifty; Hey, who met with a most encouraging success by the same method; and Lee, who lost fifty-nine only out of one hundred and seventy-two cases; while Armstrong saved all but five of his patients. In bespeaking so great a share of attention to these writers, I do not mean to disparage the opinions of others who act upon the same practical principles. I would refer, with especial satisfaction, to the opinions and experience of Dr. Legouais, of David D. Davies, of Dr. Mackintosh, and the younger Baudelocque, for confirmation of the views of the gentlemen whose works are now republished in this country.

Let us briefly consider the nature of the disorders usually comprised under the term childbed fever, after taking a view of the organs and tissues known to be affected in its different varieties and complications.

In the first place, the gravid womb is a hollow muscle, supplied with a vast profusion of veins, arteries, absorbents and nerves. It would hardly be deemed the stretch of a prurient imagination, to compare it, on account of its great vascularity, to an enormous aneurism by anastomosis, furnished with a sufficient quantity of muscular fibres to reduce back and compress, within safe and natural limits, the luxuriant production of sanguine tissues, of which it is chiefly constituted, and which afford a proper nidus for the germ, which derives from so abundant a source the materials of its new development. Its nerves, abundantly distributed through its substance, and having the most intimate and complex connection with the hypogastric, sacral and renal plexuses, and, indeed, the whole sympathetic system, endow it with a normal and pathological sympathy, coextensive with the body, and a keen sensibility to both intrinsic and extrinsic causes of excitement.

Under the circumstances of such a physical constitution, we need feel no surprise at observing the extent of disturbing force which, when diseased, it exerts upon the whole economy; nor, indeed, at the rapid destruction it brings upon the living system, whenever it happens to become the seat of disorganizing inflammation.

The violent exertions of its contractile power, in labour, are often alone sufficient to rupture or lacerate its tissues, and, *à fortiori*, to injure or disease them. It is also liable to be forcibly and injuriously compressed by the tenesmic action of the accessory muscles; to be subject to contusions by the projecting angles of the fœtus; or by the bony sides of the pelvis; and to be stimulated by the putrid discharges and absorptions incident to its lochial state. It is connected by its vagina in a bond of contiguous sympathies propagated along that canal; which, even more than itself, is subjected to

accidents in the parturient act. It is attached to the ovaries, which seem to carry throughout pregnancy, and even for many months after delivery, an invitation to disease in the uncured remains of the *corpora lutea*, and the continued *travail ovarique*, and in which, it is plausibly supposed, the first germs of some of the puerperal inflammations take their rise. It is attached by the broad ligaments to the sides of the pelvis. These ligaments are occupied with an abundant cellular tissue, liable to infiltrations and the consequences of pressure and contusion and disruption in labour. It is invested by a peritoneum and a vascular membrane, in which superficial inflammation spreads, with the rapidity of erysipelas, over extended surfaces. This peritoneum is a component part of the womb—it is its investing membrane—its coat; and it is also common, as a tissue, to the whole alimentary tube, as well as to the liver, the spleen, the diaphragm, the bladder, and the abdominal muscles. Inflammation of the intestinal, gastric, or hepatic peritoneum, is also inflammation of those several organs: and, in fine, a peritonitis attacking a childbed patient, which becomes at all extensive, radiating from the surface of the womb, soon involves, in its disastrous embrace, every important abdominal viscus. Hence the tympanites; hence the constipation or the diarrhœa; and hence, at last, and as closing phenomena, the nausea, the eructations of incipient gastritis, and the last fatal regurgitation of the puerperal black vomit.*

But not only are the reproductive organs liable to be attacked by a simple peritonitis destined to extend far and wide; they are the not unfrequent seats of phlebitis after labour. Nor should this liability excite any wonder or suspicion in the mind. Who that has ever listened to the rush of the blood in the uterine veins, under a powerful contraction of that organ in labour, but must admit that the compression of them in each pain must do violence, in a greater or less degree, to their structure; since, at every return of the pain, a major part of the blood contained in the veins and sinuses of the organ, is hastily and forcibly driven out into collateral vessels, to return as soon as the contraction ceases, and to be expelled, again and again, for the fiftieth or the hundredth time.†

The placental superficies of the womb, generally the most vascular part of the organ, is frequently left in a state comparable to that of a wounded organ. Portions of the texture are slightly torn, or small shreds of the placental lobules are left adhering, and even the mouths of uterine vessels are,

* Some of the older writers have been sneered at for supposing that childbed fever was really an inflammation of the viscera of the abdomen. What else does it prove to be?

† A stethoscope, or the immediate auscultation of the womb, during a labour pain, gives a very strong perception of the violence and haste with which the blood in the uterine veins is squeezed out from their cavities; and so great is the apparent rush that the sound is extremely disagreeable; on account, I suppose, of the conviction that it is so violent as to compromise, to a certain extent, the safety of the tissues concerned.

for days in succession, found discharging the lochial fluids. Under such circumstances, the veins inflame as do the veins in an amputated limb—the frequent cause of death from that surgical operation; and when inflamed, their mucous, or common membrane, like the mucous surface of the larynx or trachea, soon begins to be covered with inflammatory or plastic exudation; it becomes thickened, and is the seat of a pyogenic irritation. Under such circumstances, the future drainage of the blood thrown into the organ by the arteries is impeded or wholly suspended. The blood injected into the womb through the ovarian and uterine arteries, can no longer freely pass off by the uterine or ovarian veins, whose lining membrane becomes the seat of hasty and plastic inflammation, which either wholly obstructs the tubes, or so far diminishes their calibre as seriously to interfere with the passage through the capillary and even the larger vessels.

The observations that I have had opportunities to make, have led me to the conclusion, that the process of inflammation, obstruction, and destruction of the lining membrane of veins, may be hurried on with a celerity equal to that of the most rapid croup. But these changes of structure in organs indispensably necessary to the constitution of the womb, imply as a consesequence its own inevitable destruction with that of the patient.

The numerous absorbents of the womb may be viewed under the same light, and as being placed in the same category.

Besides the above too abundant sources of danger and evil, there is a great liability to inflammation of the womb alone, and not extending beyond its proper texture. This inflammation, like that in some other tissues, reduces the womb almost to the state of a pulp, in certain cases, so that it may be pierced through with the point of a knife, or torn with the slightest force.* We have seen instances, in which considerable portions of the inner, extending nearly half way through to the peritoneal surface, have been converted, within seventy or eighty hours, to a soft and gangrenous material, almost fit to be described as a colluvies or liquamen.

Such diseases as these are to be cured soon, or not at all. It is like a battle—"Quid est! Concurritur, et momento horæ, aut cita mors venit, aut lœta victoria." If the nurse allow the precious moments of the forming stage to elapse before the alarm is taken; or if the physician, through inattention or failure in making the diagnosis, pursues, in the beginning, a feeble or erroneous practice, no human skill, sagacity or devotion, can be relied upon to rescue the victim, who has already begun to die before the first hand is extended for her rescue.

We hear and read of numerous cases in which prompt measures have been taken, of the very class we would recommend, but in vain. We admit it has been so, and it must be so often in future; for, unhappily, the greatest watchfulness is sometimes incapable of detecting the existence of a

* Robert Lee gives samples of this *ramollissement*, or softening, of the uterine texture.

disease destined to destroy, because the forming stages—the curable ones—are already overpast before the patient herself, much less the nurse or the physician, has perceived the least cause for alarm.* Inflammation of the lining membrane of a vein is not painful in its commencement; nor is inflammation of the bronchus painful in its commencement, to a degree at all commensurate with its dangerous tendency; so that it happens, in bad epidemic cases, that the attempt to cure fails, because the aid is presented too late. Unquestionable authority exists to prove, that uterine inflammation, in some cases, has already gone far beyond any curable stage long before the delivery of the child had permitted its existence to be even suspected.

Under the above recited circumstances, the question is brought up—What shall we do for the saving of the life committed to our care, humanly speaking?

Can we safely abandon the philosophy of medicine, and, relying upon some vague and ill-defined notion of a constitutional depravation, undertake to counteract these vivid and almost electric movements of life, local in their origin and domain, by means of a few drugs applied to the mucous membrane of the stomach or bowels; by some cataplasms or liniments, or fomentations to the belly; or, at most, by dozens or hundreds of leeches fixed on the cutis of the abdomen? What are great inflammations, that they can be overcome by such means; especially inflammations concealed in the very recesses of the body, remote from the surfaces, and deriving their source, their impetus, their proximate cause, their *ipsissima causa* from the injecting power of arteries springing directly from the emulgents, the aorta, or the hypogastric tubes? It would appear to me to be mere dawdling with the malady, in comparison with the vigorous and masterful influences of blood-letting, which is perfectly obedient to the will of the physician, goes directly to its object, and stops short at the desirable point: which reduces the injecting force of the systemic ventricle, and brings it to such a state as to leave the necessary equipoise between all the parts of the angiotenic apparatus: a therapeutic agent, which, wisely and well directed to the exigencies of the case, surpasses all other modes of relief or cure.

In the application of this great measure for the cure of these puerperal inflammations, I might feel content to refer to the exhortations of Gordon, to be firm and decided; and I trust that every one of my medical brethren who may read his book, will give due weight to his energetic expressions on that point. But I cannot resist the desire I feel to remark, that a feeble

* I am disposed to believe, from opportunities recently enjoyed, that even the constitution of the patient does not take the alarm in some examples of phlebitis, until the disease has already reached a certain stage of development, at which it is incurable. This is undoubtedly the case in certain cases of crural phlebitis—where our attention is called to a state of the limb, just discovered by the patient, and which must have already existed many hours before she herself detected or even suspected any disorder.

and timid employment of the measure will be likely, not only to fail of success, but even to give additional impetuosity to the disorganizing forces of the malady.* The pulse, under certain circumstances of constitutional irritation, is found to be in the state which Dr. Rush characterized as the oppressed pulse,—a pulse in which the beat is apparently feeble, and rendering it doubtful whether a safe recourse is to be had to the lancet; but which, after the abstraction of a certain quantity of blood, rises and bounds like the full *synochus fortis* action. To raise the pulse to this condition, and leave it so, is to disengage the heart—the injecting power—from something that obstructed and embarrassed its action; and to enable it, by setting it at liberty, as it were, to force new and greater torrents of blood into the inflamed parts, impacting it there, and extending the inflammatory engorgements and obstructions into the collateral capillaries in every direction. Hence it is apparent, that in using venesection as a remedy, it will not suffice to stop as soon as the pulse has risen: it must be carried to the extent of subduing and reducing down within safe limits the power which it is instituted to control.

If there be any thing true in medical philosophy, it is that all the nervous, muscular, and nutritive functions, have a very close dependence upon the circulation of the blood. An increase of the momentum of the blood tends to augment the development of the nervous force; every organ is stimulated and brought to a higher degree and expression of vital power by increased rapidity, within certain limits, of the blood's motion. On the contrary, diminished intensity of its motion tends to diminish the innervative force, with all the action of all the organs dependent on that force. To bleed in fevers and inflammations, is to lessen them. But the question is, not as to bleeding; it is as to how much? by what sign shall we know when to stop? Is there a safe limit?

What is that safe limit? The practitioner is the sole judge. It is easy to stop short of its attainment: it is by no means difficult, nor perhaps uncommon, to go beyond it; and thus render most injurious a means designed only for good. Experience is the only teacher: the physician must have acquired that familiarity with the condition of the pulse, in health and disease, that can alone enable him to say—this is sufficient; the movement of the circulation is now no longer destructive or dangerous; the columns of blood driven through the arterial tubes upon the inflamed tissues, reach them with a force sufficiently moderate to *permit* them to recover. Experience, habit, tact, sagacity, these

* There is great difficulty, except in the clearest cases of violent reaction, in bringing one's mind to the point of courage so anxiously inculcated by Gordon, and which it seems he himself found it hard to attain. Let the reader of his book ponder well his directions; and if they meet the concurrence of his judgment, let him bear them in mind at the clinic.—"*Jugulare febrim*" should be the motto in such cases.

will govern him, and show him that he can go no further with safety. Gordon insists upon twenty-four ounces as the quantity to be drawn in the early stage—within twenty-four hours of the attack—and he looked with confidence to a cure when that quantity could be drawn. I find no objection to his standard, which is concurred in by Hey, with certain exceptions. It is probably sufficiently large to effect the desirable degree of reduction in most cases, but I should not be willing to adopt it as a universal rule, since there are many constitutions that would bear a greater abstraction than he proposes without injury, while others would not endure to lose near so much without a fall of the rate of circulation below the desirable point: the same point, in a word, being attainable in some by twenty-four ounces, in others by not less than thirty, and in others, again, by twelve or fifteen. Let the pulse declare; let the breathing declare; let the cessation of pain declare; let the general sensations of the patient declare: while her voice, gesture, *decubitus*, and physiognomonic expression, concur in indicating that enough has been done, and not too little, nor too much.

There is not, and there cannot be, any safety in practising physic by a *rule*. The state of the case ought always first to be made out and understood; the physiological rate of the parts concerned in disease should be detected, as well as the epiphenomena which the prime disorders have superinduced; and from this knowledge should be collected the indications of cure, and the precise agents to be used in the process determined upon. The innervation, the circulation, and the respiration, compose the great triad of the offices of the constitution: all constitutional disorders must implicate one or more of them. Let the physician take care that these suffer no material detriment in the case, and the remaining functions, that are of greater or less vital importance, will be all the safer for the wise precautions he may take as to these principal ones. Death must, in every instance, depend upon the cessation of vital action, either in the brain, or heart, or lungs, according to the beautiful exposition of Bichat; no man can die but by one of these powers. Let the medical attendant, then, in his plan for the treatment of such grave disorders as those under consideration, adapt his measures to the conservation or rectification of these functions. I say again, then, let the pulse declare; let the breathing declare; let the pain, the *decubitus*, the expression, &c., all concur in declaring what he ought to do, and teach him that he is about to do, or has done, right; neither too little, nor too much.

There is a valuable work by Dr. Legouais, published in 4to., Paris, 1820. It is entitled, "*Reflections and Observations on the Employment of Bleeding and of Purgatives in the Treatment of Puerperal Fever.*" This gentleman appears to have had a very enlarged field for observation on the subject in question, and claims, with apparent justice, to be heard on the topic. He sets forth (p. 12) the evidences which go to prove that the disease is an inflammation.

He says:—To acknowledge that the disorder most common to lying-in

women is an inflammatory one, is to admit that sanguine evacuations must constitute an essential part of its treatment. We cannot avoid the adoption of such a proposition: its truth is demonstrated to us; and we have on this point the highest degree of conviction that can be attained in medicine. But we are far from admitting this without qualification; and, however great may be the acknowledged utility of venesection in puerperal peritonitis, as a general proposition, it appears to us equally important that its employment should be subjected to certain rules in order to ensure its success: without such rules even venesection, instead of proving useful, becomes injurious in the disease. (p. 17.)

Dr. L. thinks, that venesection is applicable to the first stage, or stage of *irritation;* and that, when the inflammatory movement has gone so far as clearly to indicate to what termination it tends, the use of blood-letting serves only to derange the action or hasten that result, whatever it may be. He admits that the duration of this stage may be very different in different subjects: the medical attendant is to judge of the duration. (p. 17–18.)

He contends that this stage does not extend beyond twenty-four hours, and that he has never seen any good result from it at a later day, except in a very small number of cases; and even in these the abstractions have been so small in quantity as to leave room to doubt of their influence, if any. (p. 19.)

The paragraph commencing at p. 21 is devoted to the question, as to the quantity of blood to be taken; which, Dr. L. insists, should be large enough, *jugulare febrim*, as Galen says, to destroy it at a blow, and not merely to weaken the force of the disease for a short period, in order that it may rise with greater power in a system weakened and not saved by the first operation. He finds the fault, generally found with Leake, who, understanding the nature of the case well, and urging early and free blood-letting, yet did not himself go beyond eight or ten ounces.

Again:—"We believe, then, that in treating puerperal fever by blood-letting, the object should be to abolish the disease entirely by the powerful and energetic use of the remedy. It is the fabulous hydra, which can only be destroyed by cutting off at a blow all the heads. If a single one be spared, it is sufficient to keep alive a vital principle, which soon reproduces the monster more terrible than before." (p. 23.)

In a paragraph, at p. 24, he regards the quantity needful as eighteen, twenty, or twenty-four ounces at the first operation; less than this rarely produces an advantageous and sure result.

The student of the history of childbed fever will not have failed to observe, that many individuals of the profession who have been called upon to encounter the disease in question, when it prevailed as an epidemic, have trusted to the use of remedies, which, although not successful in curing the disorder, or saving the patient from death, yet could not be accused of mischievous or pernicious action in the case. This arises from the less obvious

or less evident nature of the operation of drugs than of venesection, which produces effects so sudden and palpable upon the great vital functions, as to render them intelligible to the ordinary by-standers and friends. A patient taking large doses of calomel or James's powder, or ipecacuanha, or purgatives, if she grows worse and worse in childbed fever, will be readily supposed to do so, notwithstanding the salubrious tendencies of their operations: *Post hoc, sed non propter hoc.* Whereas, should she decline as rapidly under the use of the lancet, that decline is apt to be charged directly to the loss of blood. Dr. Robert Collins, of Dublin, in his *Practical Treatise on Midwifery*,* says, that of the eighty-eight cases which he had under his care while Master of the Dublin Lying-in Hospital, thirty-two recovered, and fifty-six died. (p. 190.)

Dr. Collins, in this important work, discourages the use of venesection in the epidemic forms of the disorder. Let it be observed, however, that he had eighty-eight cases, of which fifty-six died, and thirty-two recovered. He says, "In *fifteen* only of the eighty-eight did we deem it advisable to bleed generally; *seven* of the fifteen recovered." Notwithstanding this, the doctor gives the following summary:—"The result of my observations upon the treatment of puerperal fever is, that general bleeding, except when there is a strong, full pulse, and the symptoms are of a highly inflammatory character, is injurious. On the contrary, *local* depletion, by the application of three or four dozen leeches, followed by the warm-bath and stuping, all of which should be repeated according to circumstances, and as often as the strength will permit, seemed most beneficial. These means, together with the active employment of calomel, conjoined with hippo or opium, offer the best prospect of relief. Blistering the whole abdomen, after leeching had been pushed as far as could be, was found serviceable. In some cases the debility was so excessive as to induce us to apply the blister at once, using calomel and stimulants at the same time." (p. 396.)

Dr. Collins evidently entertains the opinion, adverse to my own, that puerperal fever is a something over and above the local disease, and constitutional affection resulting therefrom. In this opinion he has many supporters. But, accustomed to look for causes sufficient, and not more than sufficient, for the production of certain effects, I find myself still unable to believe that he and those who think with him are right. Phlebitis of the recently-discharged womb is alone sufficient to produce all the frightful rapidity of which Dr. Collins speaks—so is gangrenous inflammation of the inner paries of the organ; and equally capable of causing a rapid, a most sudden overthrow of all the functions, is an inflammation of the whole peritoneum; by which is implied, as I have before explained, a disease of every organ which receives an investment of the peritoneal membrane as part and parcel of its own nature and texture.

I cannot but avow, that so great is the respect I feel for Dr. Collins, of

* Select Medical Library, February, 1838, Philadelphia, Barrington & Haswell.

Dublin, on account of the very valuable services he has rendered to mankind, and particularly to the medical profession, in giving to them the work above quoted from, that it is with much reluctance I find myself compelled to dissent from his opinions on puerperal fever. Acknowledging, therefore, his great authority as a medical teacher, I disavow it for his article on puerperal fever; in which neither does his reasoning take captive my judgment by its force, nor his practice overcome my prejudices by its success; in fact, its success was very bad—he having lost nearly two out of three cases; and his reasoning not better, since it is founded on the bare postulate, that the disease was something more—something beyond inflammation of tissues; an opinion which, were it even proved to be true, could not alter my views of the urgent necessity to reproduce the reciprocity of force betwixt the receiving or inflamed tissues and the injecting agent, viz., the heart and arteries.

I am further compelled to dissent from Dr. Collins' authority, and that of those who agree with him, in regard to the preferableness of leeching to direct blood-letting from veins. I have never yet perceived the full force of the reasoning which induces many medical practitioners to prefer local to general bleedings in such great cases. The mere fact that the leech draws blood from the cutis of the abdomen, ought not to be taken as proof that it is capable of exhausting a system of non-collateral vessels in the interior of the body. What direct connection can be asserted to exist betwixt the capillaries of the skin and those of the intestinal peritoneum; or the uterine veins, or absorbents, or the proper texture of the womb? The abdominal peritoneum and the intestinal peritoneum are in all probability equally exempt from the charge of originating or setting on foot the first movements of the inflammation in childbed fever. But the womb and its annexed organs are supplied from the ovarian and the uterine arteries. This circulation is in nowise directly related to the circulation in the skin. Hence I infer, if the leeching is useful in this case, it is through its power on the action of the heart alone, and not by an immediate depletion of the inflamed parts. But if the object in truth be, to modify the injecting power of the heart, by diminishing the quantity of the blood and changing its crasis, why not take it from a vein at once, where you can control the operation? where you can take one ounce or twenty? where you can go on or stop at the slightest warning? and where you avoid all the fatigue and exposure to cold and dampness inseparable from the operation of leeching? A patient who can bear leeches can, in general, much better tolerate the lancet. I shall be glad, therefore, when the day arrives in which the therapeutical employment of the leech should be understood as nearly confined to local disorders; while the lancet should be esteemed as applicable for both the local inflammations and engorgements, and the constitutional derangements either arising out of them, or originating them.

Dr. Baudelocque, the younger, in his *Traité de la Péritonite Puerpérale*, cites opinions from the *Dict. des Scien. Méd.* unfavourable to the use of

general bleeding except in special cases, but highly laudatory of the employment of leeches as a means of cure. Dr. B. opposes the sentiments of that party as follows:—

"It has been further alleged in favour of leeching, that in drawing blood from the capillary system they are also able to abstract it directly from the diseased organ, by means of vascular connections existing betwixt the skin and the subjacent parts. This communication seems to me to be remote even in the case of inflammation of that portion of the peritoneum that lines the anterior parietes of the abdomen; and it must be absolutely null when the inflammation is seated in the broad ligaments, upon the womb, upon the intestines, &c., which is most commonly the case." (p. 330.)

"I do not participate in the fears of MM. Gasc and Marat, as to the disadvantages of general bleedings; and cannot place the same confidence that they do in topical depletion. Whenever a loss of blood is indicated, and properly administered, a venesection is not more likely to promote the development of an adynamia than a leeching; if, on the contrary, the loss of blood is contra-indicated, the employment of leeches, it is true, will do less harm than that of the lancet, but we ought not to select one remedy in preference to another because it will do less injury to the patient than that other."

A little further on he speaks in the following terms:—"In my opinion, bleeding from the arm is, in the majority of cases, to be preferred to leeching; and that the latter should be resorted to only where, after having obtained by venesection a considerable diminution of the symptoms, there remain several painful points in the abdomen. These points should be covered with leeches, which will then dissipate a disorder for which general bleeding would have been much less efficacious. In weakly persons it would be proper to use the leeches at once, especially if the inflammation should be partial, of small extent, and accompanied with but little fever. But they should be used in pretty great numbers: it is not by applying eight or ten leeches that advantage may be expected;—twice or thrice this number should be put on. *A fortiori*, the number should be much more considerable, where, from peculiar circumstances, we are obliged to abstain from general bleeding in a robust person, and confide in leeches alone for the cure of the peritonitis; in such case we ought to use fifty or sixty each time."* (p. 333.)

In the above views of M. B. I do not perceive how any one can fail to concur. It seems to me that, except for purely local affections, the loss of blood ought to be effected from a vein of considerable size, in order to bring about a state of the whole circulation favourable to the termination by resolution. I have had, as I think, many occasions of observing, that where leeches were applied for the relief of great and extensive inflammations,

* The reader will bear in mind the greater powers of the French over the American leech.

attended with much constitutional perturbation, they rather served to weaken the patient than to diminish the force of the disorder.

Nor is it at all apparent to me, that even in those cases where leeching is practised to the extent of bringing on a disposition to syncope, any advantages superior, or even equal, to those derivable from venesection, can be claimed. The debility occasioned by leeching *ad deliquium animi* has always, under my observation, been alarming, and even dangerous. It is much less easily recovered from than in the case of its following phlebotomy.

Dr. Mackintosh, a writer of great reputation, in his *Principles of Pathology and Practice of Physic* gives a few pages to the subject of puerperal peritonitis; and it is true that, at p. 201, edition of 1834, he bestows much praise on the employment of leeches in the case. Nevertheless, his views are conformable to those of Gordon, Hey, Armstrong, &c., in regard to the greater dependence to be placed on venesection, as may be seen in his summary at p. 202, and in his critical and sarcastic remarks upon Dr. Hamilton. It is perhaps useless to multiply citations here; and, indeed, I am quite willing to leave the decision to the judgment of any practitioner who will give due regard to the arguments drawn from the nature and extent of the disorder, the indications of treatment, and the comparative powers and facilities of the several remedies.

There are writers who disapprove of frequent repetitions of venesection in the treatment of puerperal fever; as, for example, Legouais, above quoted. I have already said that it is not difficult for the approvers of venesection to carry the abstraction of blood too far. I know that in some cases, when it has been deemed needful to bleed very copiously for the cure of an inflammatory attack, the latter part of the case has been rendered very unmanageable by the supervention of a state of the pulse, which may be qualified by the epithet soap-bubble, from its slight resistance to pressure, notwithstanding the considerable remaining volume of the radial artery. Such a pulse is frequently met with after very violent uterine hæmorrhages; and is not unapt to mislead the inexperienced by its apparent vehemence, when, in fact, it arises from the insufficient stimulation of the heart and brain, the consequence of a diminished crasis of the blood. The blood, for its healthful constitution, requires a due proportion of crassamentum, from which it derives its proper crasis. While I am aware, on the one hand, that the constitution of the blood may be seriously changed by the imprudent repetition of phlebotomy, I am not afraid to repeat the venesections in peritonitis, &c., until I feel assured, both from the state of the crassamentum and the signs presented by the patient, that no more can be taken with prospect of benefit to the patient. To show what can be borne in certain cases, let me relate the following observation. In the course of the present year a case fell under my care, of which the following is a correct statement:—A young married lady, at the end of her fourth pregnancy, was attacked about 3 A. M. with pains of labour and flooding. I did not see her until mid-day. Upon

arriving at the house, I judged, upon careful inspection of the napkins and sheets, &c., that had been removed from about her person, that she had lost fifty ounces of blood; an opinion strengthened by an examination of her pulse, her muscular strength, and her skin, which was excessively pale. Upon making an examination I found the hæmorrhage still active; and, in order to check it, resolved, as the placenta was not in reach, and the os uteri one-third dilated, to rupture the membranes, according to the method, as it is called, of Louise Bourgeois. As soon as the water had gone off, the hæmorrhage was stayed; and she, not long afterwards, gave birth to a healthy child. The young lady was very weak. I saw her late in the evening, and she was comfortable, but extremely pale. During the course of the next day and night she was comfortable, and was kept carefully in bed, being without other complaint than debility. But at 4 o'clock in the morning she was attacked with intense rigor, amounting to ague, accompanied by excessive pain and soreness of the belly, with a pulse at 150 per minute, rising at times to 160 beats; she presented, indeed, all the phenomena of a violent attack of puerperal fever. I did not see this patient until as late as 11 A. M.

Upon making out the diagnosis, I again made inquiries of her mother, a most intelligent person, who convinced me that the first estimate, as to the quantity lost in the hæmorrhage, was far too small; and I have not, at this moment, any doubt of her having lost, on that day, full seventy ounces of blood. As puerperal fever was prevailing considerably at the time, I felt deeply concerned as to the line of my duty in the actual circumstances. It appeared to me more than probable, considering the violence of the attack after so great a hæmorrhage, that it would prove fatal under any treatment that might be adopted. I thought it certainly would have a fatal result, should I allow the heart to continue beating at so violent a rate. 150 pulsations per minute will give 115,200 pulsations per diem over and above the number required for the healthful rate of the circulation; which, at seventy per minute, gives a little over 100,000 per day. Let any one conceive the amount of danger and mischief concomitant upon the long continuance of such an excessive rate of a vital function. But the patient had already lost profusely of her blood; and hence, with due regard for my own reputation, or the credit of a most invaluable remedy, could I venture to increase this loss by bleeding her, whose death, probably, under such treatment, would be boldly charged to malpractice? It was a severe struggle; but I had conviction enough to compel me to follow the suggestions of my judgment; and having bled her as freely as I dared to do, I had the satisfaction to find that the pulse soon fell to a more moderate state, and in forty-eight hours my patient was out of danger, and is now enjoying health, and a life which, I sincerely think, would have been destroyed by metro-peritonitis, but for the correct decision I made as to the use of the lancet.

I have recited the above case as evidence of the propriety of bleeding a

patient, notwithstanding she has already lost freely of her blood; and numerous instances have fallen under my notice where venesection has been reiterated during successive days after the attack was fully formed. In the winter of 1840, I visited the wife of a gentleman at Concord, twenty miles from the city, who had been three days ill, under the care of a neighbouring physician. The latter had bled her once, but sparingly, on the second day, though she was labouring under severe peritoneal fever. Upon arriving in the night, at her residence, where I met the medical gentleman, we concurred in opinion as to the propriety of another venesection, which was promptly effected, and repeated the next day, and then followed by cupping of the belly; so that she perfectly recovered after a very narrow escape. In the lying-in wards of the Pennsylvania Hospital, I have seen seven women recover from the most alarming attacks of metro-peritonitis, under the vigorous employment of the lancet, carried to the full extent of Gordon's views; not a single death has taken place there, under this treatment, within my notice. I shall recite the following sample from my note-book, which may suffice to show more clearly my views of the plan that ought to be followed.

Mrs. W. G., aged about twenty years; first pregnancy; was delivered on Thursday, the 4th November, 1830, of a female child, after a labour of four hours.

She was very comfortable on Friday and Saturday. There was already a small quantity of milk in the breasts, but they were neither full nor painful. The bowels were opened on Saturday by a dose of castor oil, a tablespoonful and a half, which operated through the day and night ten or twelve times. She has had, for her diet, tea and bread, and oatmeal gruel. There was no fever on Friday nor Saturday.

*Sunday*, November 7th.—I did not call to see her until past 10 A. M. She had had a chill in the night, rested badly, and now suffers pain and soreness in the right flank and iliac region. The parts were very tender on pressure, distended and resonant under percussion; the *fundus uteri*, above the symphysis pubis, sore to the touch; lochia bright and free; urine abundant; tongue whitish, soft, moist and broad; headache, thirst, dorsal decubitus; motion of thighs gives pain in abdomen; any attempt to rise or turn also gives pain; pulse 148, with a vigorous stroke. She was bled eighteen ounces from a large orifice, when faintness came on, and the arm was bound up. In a few minutes after the bleeding, the pulse was 112, but it soon rose again to 152. Although the bowels had been moved so often, I thought their flatulent state indicated an arrest of the peristaltic movement from inflammation of their peritoneal coat; and, to re-excite them, she took a common enema, which operated twice with relief. A flannel bag, filled with wheat bran soaked in boiling vinegar and water, after being well pressed, was laid warm on the belly: it was changed occasionally.

At 20 minutes past 3, P. M. The pulse 145, with a smart stroke; the tenderness of the belly neither less nor greater. I took twelve ounces of

blood from the arm, in a large stream. I was obliged to stop, on account of faintness, though I had first drawn the pillows from under the head, in hopes of getting a larger quantity. In fifteen minutes afterwards, pulse 144.

At 4½ P. M. Calomel, gr. viij.; Opium, gr. iss. The powder was taken for a dose. To drink gum water.

At 6½ P. M. Has slept, and feels decidedly less pain and soreness; but as the pulse is frequent and strong, I took twenty-two fluid ounces of blood, which was carefully measured. It made a firm clot, and had a thick coat of size. She took Manna, ℥ss.; Sem. anise, ʒi.; Magnes. carb. ℥ss.; Aq. bullient. ℥vi. An infusion was made of the anise and manna in the boiling water; which, when cool, was strained: after which, the magnesia was added, to make a proper mixture. A fluid ounce was taken for a dose every hour, until the bowels were moved.

At 10½ P. M. Pulse 136, full and strong; the right mamma filling and hardening, the left soft and flaccid, but the gland is developing favourably; no headache; thirst; the soreness and pain, on pressure, (carefully examined,) are very much lessened; lochia free; *decubitus* still dorsal.

*Monday*, 8 A. M. Has slept a good deal; pulse 130, and softer; no pain except by firm pressure on abdomen; thirst lessened; both mammæ full and hard.

3 P. M. Pulse 120, full and strong; no pain, not even from pressure; tongue clean; had several stools; not thirsty.

9½. Same.

*Tuesday*, 9th November, 9 A. M. Pulse 124, and strong; tongue somewhat furred; plenty of milk; breasts soft; no pain; bowels moved again.

9 P. M. Pulse 111; sore nipples.

*Wednesday*, 10 A. M. Has been sitting up: no pain; pulse 126.

In a few days after this last date, she was perfectly well.

This young woman had a healthy and strong constitution. In her case, I took away, between 11 and 6 o'clock on the first day of the attack, fifty-two ounces of blood, without which, I think, she must have died.

I have related the above case from my note-book. I present it as a fair specimen of the mode of practice, in such attacks, which I have for years been in the habit of pursuing. I have treated cases in the Pennsylvania Hospital and in private houses upon the same principle; and I have the satisfaction to say, that my just expectations of success, founded on the doctrines of Gordon, have rarely been disappointed.—M.]

## OF PAINFUL ŒDEMA.

By this title, or by that of *phlegmasia alba dolens*, is understood an acute and very painful swelling of the inferior extremities, which sometimes affects women in the lying-in. This inflammatory swelling, which rarely involves both limbs at once, is attended with fever

of considerable violence, which in some instances takes on an adynamic or typhoid character.

This disease, which the earlier writers designated as milk-leg, (*dépôt laiteux*,) or metastasis of milk, has been well investigated of late years only, and particularly by M. Velpeau, in his *Recherches et observations sur la phlegmasia alba dolens*, in the Archives Générales de Médecine, for Oct., 1824.

Among the causes that give rise to it, should be comprised all those circumstances that obstruct the venous circulation of the lower extremities, by causing, to a certain extent, the blood to coagulate within the vessels that happen to be attacked with inflammation; thus, pressure exerted upon the nerves and veins in the pelvis, the traumatic inflammation of labour, uterine phlebitis and phlebitis of the veins of the pelvis, suppurative inflammation of the symphyses, and also inflammation of the sciatic and obturator nerves, are so many circumstances under the influence of which the disorder may be brought on. It should be further observed, that even if an inflammation of the lymphatics of the limb be not the cause of the disorder, it may, nevertheless, contribute to produce the phenomena that constitute the malady. Moreover, a sudden chilling of the body, following the copious perspiration that almost every woman in labour has, is one of the commonest among the determining causes of *phlegmasia dolens*.

The malady generally comes in with a chill, followed by intense fever and by sudden pain in the groin and thigh, which gradually swells from above downwards, and mostly upon its inner and anterior surface.

[I shall interrupt the paragraph in order to protest against M. C.'s account of the onset of the disorder; or rather to aver that in the many cases I have met with, the swelling is in a great majority perceived first in the calf of the leg, which becomes painful and hard and swollen before the woman suspects that she has any pain at the groin and in the thigh. When I hear a lying-in woman complain of pain of the limb, my first attempt at diagnosis is to compress the calf of the leg—and I feel always reassured, as to any danger from phlebitis, when she permits such pressure to be made without complaining of it as painful.—M.]

The limb soon becomes infiltrated completely, the skin is white, glistening, tense, and exceedingly sensitive to the touch, but the œdema is not really serous and does not pit upon pressure, except upon the points that are not painful. The disorder, which ordinarily lasts from four to seven weeks, most commonly ends by suppuration, in enormous ulcers, and sometimes in death.

The treatment consists in blood-letting, both general and topical, in cataplasms, both emollient and narcotic, cooling drinks, *absolute* diet, baths, which are most suitable after the fever is broken, and, lastly, in the internal use of antiseptics, when any adynamic symptoms begin to be exhibited.

[I disagree here, also, as to the liability to suppuration. In the greater

portion of my cases, the patient has effected resolutive cure of the inflammation, and even where the malady has resulted in the death of the patient, of which I have witnessed two instances only, the suppurations did not appear externally, and were confined to the *membrane commune* of the veins. I differ with Mr. C. as to the necessity of treating separately phlebitis and phlegmasia alba, since they constitute an identical case. Of this no person could doubt, I should suppose, who had read the observations on phlebitis by Dr. David D. Davis, late Professor of Midwifery in the London University, and those of Dr. Robt. Lee, of London, in his writings on crural phlebitis, for which see the volume on puerperal fever, published by Haswell and Barrington, of this city.—M.]

## PUERPERAL NEURITIS.

This designation is applied to the inflammations of the crural and sub-pubal nerves, brought on by pressure during labour. The disease, which until lately was confounded with phlebitis and neuralgia, is characterized by pain that is highly exasperated by pressing upon the inflamed nerve, which becomes red and swollen, and forms a hard, uneven cord. In some of the cases phlegmons are formed over the tractus of the nerve, which suppurate, and in other instances, the neuritis gives rise to painful œdema.

The treatment of this affection consists chiefly in topical bleeding, carried to a proper extent, according to circumstances, and frequently repeated, according to the violence and obstinacy of the pain. It is well, in some specimens of the malady, to make use of general bleeding; but it is mainly by the use of bathing, emollient cataplasms and the energetic application of antiphlogistics, that we may hope to subdue the extreme pain, and even completely to cure the patient.

## OF PHLEGMONOUS ABSCESS IN LYING-IN WOMEN.

It sometimes happens that the cellular tissues of the pelvic muscles, as well as the articulations of the symphyses, are the seats of isolated inflammation, giving rise to abscesses and phlegmon, called *milk-boils*, which appear in different parts of the body in lying-in women recently delivered.

When these abscesses form around the psoas and iliac muscles, purulent collections often follow, which may open at the groin, in the lumbar region, and even in the texture of the labia pudendi; when, on the other hand, these collections find their way into the bladder of urine, into the rectum, or into the cavity of the womb, the accident is so much the more unfortunate, as it very often causes the death of the patient. It is, therefore, of the highest importance to prevent and to combat, as early as possible, the development of these inflammatory symptoms by the prompt and energetic application of the antiphlogistic method of treatment, and where we cannot succeed in preventing suppuration, to give speedy issue to the matter, by opening the abscess conformably to the rules of the art; that is to

say, by means of the bistoury or the caustic, according to the circumstances of the case.

## INERTIA OF THE WOMB, AND FLOODING DEPENDING THEREON.

By inertia of the womb is understood the diminution or cessation, more or less entire, of the contractions of the organ, so that it has no farther power to expel the fœtus or placenta, or to contract itself after being freed from the fruits of the conception. The disorder may, therefore, be met with either during or after labour.

The causes of inertia of the womb vary accordingly as the affection occurs at the commencement, during the progress, or after the termination of a labour. An attack of uterine inertia, that takes place at the onset of labour, generally depends upon weakness of the patient, and is chiefly met with in women of a lymphatic temperament, of a constitution debilitated by trouble, or by antecedent attacks of disease, and by hæmorrhages that may have occurred during the pregnancy. Sometimes inertia is caused by the excessive distension of the womb in twin pregnancy, and in dropsy of the uterus, and in certain cases it is produced by a vivid emotion, such as an exaggerated feeling of modesty, and the presence of an ac coucheur, or of some other person or persons.

Inertia coming on during labour almost always depends upon fatigue of the uterus, where contractions have been both too violent, and too frequently reiterated, or too long continued. It may, also, be occasioned by a premature rupture of the membranes, which, when the waters are gone off, leaves the contractions much less energetic and useful. Indeed, an attack of inertia of the womb coming on after labour may be caused, not only by the circumstances we have mentioned, but may, likewise, result from a sanguine congestion of the brain, which no longer receives any nervous influx.

Where the inertia of the womb comes on early in a labour, the uterine contractions are feeble and few, and the dilatation of the cervix takes place very slowly. It often happens that, after many days of suffering and of useless efforts, the woman falls into a state of extreme exhaustion, her strength disappears, and the labour comes to a full stop; there is a complete cessation of the pains, and, where the fœtus is already engaged in the pelvis, it stops and makes no further progress. The pulse is now found to be small, irregular and scarcely perceptible, and when we Touch, the neck of the womb is found to be in a state of atony, of softness and relaxation. Hæmorrhage often comes on, too, which renders the condition of the patient still more alarming.

An attack of inertia, coming on in the course of a labour already advanced, exhibits nearly the same symptoms, with this difference, however, that they have succeeded to contractions, energetic, frequent and prolonged, and to severe pains that have now completely ceased, often have grown weaker and weaker, and less and less frequent. In cases of this kind, both the mother and the child are in

the greatest danger of being lost, unless succoured both promptly and wisely.

In the form of inertia that comes on after the termination of the labour, the womb fails to contract, and does not exhibit that hard, spherical globe which we find in the hypogaster, when the womb contracts naturally. The os uteri being in a state of complete inertia, remains open, and the patient feels no after-pains from the contractions of the womb—which, under such circumstances, becomes inverted under the slightest provocation thereto by tractions made upon the cord. This state of affairs almost always brings on serious hæmorrhage. The blood escapes in torrents from the genitals, or it is retained within the cavity of the womb, which constantly enlarges more and more under the influx. In either case the countenance of the patient assumes a cadaverous pallor; the pulse grows weak; she has tinnitus aurium, flushings, and very soon faints away. In fact, a rapid, inevitable death follows this hæmorrhage, provided there be the least delay in applying the proper remedies. If the woman dies, the parietes of the uterus are found thin and collapsed together; indeed, the inertia is dangerous in proportion to the violence of the hæmorrhage with which it is complicated.

The treatment of this sort of paralysis of the womb varies accordingly as it is simple or complicated with flooding, and, likewise, according to its dependence upon some general debility in the patient. Under circumstances such as those last alluded to, particularly where hæmorrhage comes on, we should first endeavour to improve the strength of the female, by a few spoonfuls of Madeira or Frontignan, or a cordial draught with mint or canella waters, with a few grains of sulphate of quinine, and a few drops of tincture of saffron or mugwort, which exert a more special power over the womb. Prof. Lobstein, of Strasburg, was in the habit of prescribing borax with advantage; he gave a few grains for the dose. But should the labour, notwithstanding these attempts, prove to be languid and slow, and especially should the strength of the patient become more and more exhausted, the delivery should be accelerated, either by means of the ergot, of which ten grains may be given every ten minutes, in a glass of sweetened water; by turning and delivering by the feet; or, lastly, by the forceps, where the head has already become engaged in the pelvis.

In case the inertia should be complicated with uterine hæmorrhage, it is our duty to act still more promptly in the way just pointed out; and where the flooding does not attack until after the birth of the child, and before the delivery of the placenta, our first indication is to hasten the expulsion of the placenta, by pulling it downwards by the umbilical cord, with proper care, by exhibiting a dose of ergot, and especially by carrying a hand into the womb to take it way.

Where the hæmorrhage persists after the discharge of the afterbirth, we should make haste to apply cloths wrung out of a mixture of cold water and vinegar to the lower belly and upper part of the thighs; and at the same time inject a similar mixture into the

womb itself, or pass a hand up into the uterine cavity, with a view to excite its contractile power. The spurred rye is one of the most uniformly successful agents in cases of this kind. In all cases, before we proceed to any action whatever, we should satisfy ourselves that the womb is not inverted. In case we should find it inverted, the first indication would always be to reposit the organ, and recur to the modes of treatment just now pointed out, should the hæmorrhage continue after the restoration of the organ to its natural position. With a view to sustain the womb, by means of an internal mode of compression, a bladder, to be afterwards inflated, might be introduced into the cavity, while pressure is made with a hand upon the exterior through the integuments of the abdomen, according to the plan proposed by M. Rouget.* In fine, transfusion of blood, taken from another person, into one of the veins of the patient's arm, is to be looked upon as one of those last resources to which we might turn in the most desperate cases, as a means of remedying the extreme debility consequent upon flooding.

## OF MILIARY ERUPTION.

Lying-in women are subject to a miliary eruption, which takes place without any fever. This disorder, which is announced by pricking sensations and itching, comes on during abundant perspiration, whether spontaneous or provoked, and exerts itself chiefly on the neck, breast, abdomen and wrists. It is characterized by white pimples, that are followed by transparent vesicles filled with colourless serous fluid. Yet it sometimes happens, that the vesicles are surrounded with a reddish areola more or less deeply tinted. The disorder, which commonly lasts from four to six days, in most instances goes off by degrees; but in some of the examples, by a slight desquamation of the cuticle. However, it may be a complicated disorder, as, for example, with mucous inflammations, such as bronchial catarrh, angina, gastritis, &c.

Where the malady exists without any complication, we should confine ourselves to guarding the patient from cold air, and to the prescription of demulcent drinks, and an antiphlogistic regimen. Where the heat or itching, or sensation of heat, prove troublesome, relief may be obtained from tepid baths. Lastly, where the eruption is complicated, we must act according to the requirements of the concomitant disorder; that is to say, recur to demulcent and diluent drinks, to blood-letting, and all the antiphlogistic measures calculated to combat the various phlegmasias, and, on the other hand, employment is demanded of the cinchona, of tonics, and sedatives or excitants in cases where the eruption is complicated with adynamic or ataxic fever.

* Mélanges de Méd. et de Chirurgie. Paris, 1810.

## LESIONS RELATIVE TO LACTATION.

When the milk-fever is passed, the breasts have become to the greatest degree distended, and the secretion of milk goes on constantly, as is proved by the slow and gradual swelling of the mammæ, in the intervals between the giving of suck to the child.

The quantity of milk secreted varies very much, for there are some women who cannot support one child at the breast, while others can nurse several; in certain cases, there is even an exuberance of the secretion, which constitutes what is called galactirrhœa; in other instances, on the contrary, the secretion fails either wholly or in part, a state which has received the appellation *agalactia*. In some women, the milk is retained within the breasts; in others, it flows involuntarily: in some, it is so thin, and so little consistent, that it cannot suffice to sustain the child: and, lastly, the milk is liable to modifications of colour, consistence and savour that render it more or less unfit for the purposes of nutrition. We shall proceed to speak of the different anomalies of the milk in succession.

A case of *agalactia* is one in which the mammary gland either secretes none, or very little milk. In the former case, it is said to be total; in the latter, partial. This fault may be either primary, or merely accidental, according as whether the secretion does not come on after the birth of the child, or whether the secretion becomes suppressed or lessened by the influence of some accidental cause. The causes that may produce agalactia are, atrophy of the mammary gland; its being either very little or very much developed; its want of vital energy, and all its organic diseases. Among the causes of agalactia are alike arranged a nervous temperament; an extreme degree of emaciation, or its opposite; a state of debility and languor of the ordinary kind, or one produced by starvation; a long protracted disease, a painful pregnancy, profuse hæmorrhages or other evacuations; bad digestion, leucorrhœa, abuse of venery, phthisis, grief, and the depressing passions of the mind; and the too early or too advanced age of the patient. Lastly, the application of topical astringents or narcotics to the breasts, acute diseases, gestation, and menstruation, occurring during the lactation, are likewise causes that may lessen or completely suppress the secretions of the mammary glands.

Though it be always easy to establish the diagnosis of agalactia, upon the sole indication of the patient herself, it is not so always with mercenary nurses, who have some interest in concealing the truth. The want of the milk secretion may always be verified by the following characters: the breasts do not swell and become hard during the intervals of giving suck; the child is always hungry, even when he has just been nursed; it often asks for the breast, lets it go, and cries as soon as he has taken hold; his urine is scanty and infrequent, he sleeps but little, grows thinner, and soon wastes away.

Notwithstanding that a case of agalactia is beyond the power and resources of our art in many instances, there are some instances in

which we determine, augment, and sustain the secretion of milk: thus in pregnant women who are weak and emaciated to such a degree as to give reason for fear lest no milk should be formed, the difficulty may, in many instances, be prevented by means of a tonic and nutritious diet, and by frictions on the breasts with flannel, either dry or saturated with aromatic substances. At the same time, we ought to endeavour to remove those causes we have mentioned, and to cure the diseases with which the woman may happen to be attacked. The sucking of the child, and the frictions we have pointed out, have often proved sufficient to establish the secretion, by exciting the mammary gland; but where this cannot be effected, the woman ought certainly to abstain from nursing her child. The use of what have been denominated *galacto-poietic* substances has fallen into disuse, with the exception, perhaps, of the anise, the fennel and lentils, which, in some women, seem to increase the milk-secretion; but it is proper to observe, that in most women these articles are quite inefficacious.

While agalactia is more promptly injurious to the child than to its mother, she may likewise, having lost her milk, be attacked with a kind of hectic, attended with a dry cough, and a sense of heat in the chest, which bring on rapid emaciation, if the woman does not wean as soon as these symptoms become manifest. Let us add, that the secretion may be either lessened, suspended, or completely dried up, from the effects of violent grief, fright or anger. Very young women, under eighteen years of age, or those who are too old, above forty, give milk that is not so good, and in smaller quantity, than others. The secretion, also, is generally less plentiful after a first than after the subsequent confinements. But there are some women who have less and less milk after each consecutive lying-in, and who at last have none at all for the second or third child, as if the mammary gland became exhausted by the repetition of its action, instead of becoming stronger and stouter by the exercise of its powers, as generally happens with other organs. This is particularly apt to be the case in women who have very small breasts.

## POLYGALACTIA, AND MILK-CONSUMPTION.

Under these terms, and under that of *galactirrhœa*, is designated a too abundant secretion of milk, which, however, does not constitute a morbid condition, unless the discharge of the liquid affects the woman's health. This exuberance of the milk is generally accompanied by insomnia, pains of the back and loins, and lassitude in the lower limbs; the milk becomes limpid, and without any consistence; the child profits but little by its nursing, throws off what it takes, digests it badly, and grows thinner and thinner.

A galactirrhœa, which mostly is merely an inconvenience, and not a disease, and which may be caused by too succulent a diet, by too frequent application of the child to the breast, or by irritation of the nipple, in general requires, as to the treatment, nothing more than exercise, a vegetable diet, the use of pure water, a less fre-

quently-repeated application of the child to the breast, and some slight revulsion to the skin, the mucous membranes of the digestive system or the urinary organs, by means of some sudorific doses, small saline doses, Veiss' whey and diuretic drinks.

Though galactirrhœa generally affects the health of females but slightly, it may, in some cases, give rise to the symptoms of *milk-phthisis*, which is preceded by loss of appetite or by constant desire for food, by a burning sensation in the pharynx and stomach, and by pain in the chest, and, lastly, by emaciation and loss of strength, from which more or less speedily death may result. This disease, which has been designated also by the title of *nurse's phthisis*, (*tabes nutricum*,) and which Morton has described so well, sometimes appears in women who continue to nurse too long, or who persist in suckling when their constitution is unfit for it.

The *treatment* of this kind of phthisis demands, above all, that the child should be weaned, after which the health is soon established if we resort to the employment of food of easy digestion, and proportioned to the powers of the stomach; to moderate exercise, accompanied by agreeable means of distraction; a milk diet, a tisan of Iceland moss; rhubarb in small doses; effervescing mineral waters, acidulated: blisters to the interior of the thighs, and cups to the back, are likewise very useful in some cases; at the same time, good effects are obtained from the internal and external use of sedatives, from syrup of white poppies, or from that of lactucarium. M. Rauque recommends the following liniment:

R.—Cherry laurel water, two ounces; extract of belladonna, two scruples; ether, an ounce.

We might, moreover, prescribe frictions of the mammæ with camphorated oil of chamomile, or opodeldoc; vapour baths, with addition of juniper berries, gum benzoin, and other aromatic substances.

Involuntary discharge of the milk, which is due to atony or excessive sensibility of the nipple, requires, in the former case, external and internal excitants, and, in the latter, sedatives. We should, at the same time, resort to astringent applications to the nipple, and to a tonic regimen. M. Nauche speaks of having recommended, with good effects, a weak decoction of rhatany, to overcome involuntary flow of the milk.

*Retention of milk in the breasts.* In some women it happens that there is excessive secretion of milk, without the excretion of the liquid being thereby augmented. When this is the case, the breasts are distended, painful, and contain indurated points, arranged in lines which extend even to the arm-pits, and give rise to a true inflammatory engorgement, if means are not taken to prevent it. In this condition, the first indication is to have the breasts emptied by a vigorous child or by an adult, or else by a young puppy, whose feet should be wrapped in linen before he is applied to the breast; or, lastly, by means of breast-pumps. Care must be taken to keep the breasts warm, at the same time that we endeavour to diminish the secretion of milk, by restricting the patient to a moderately close diet, of sub-

stances not containing a great deal of nutriment, and by insisting upon nearly absolute rest, and especially upon inaction of the upper extremities. We should endeavour, moreover, to encourage perspiration and the urinary secretion, by means of weak diaphoretic and diuretic substances; as, for instance, decoction of the root of the Arundo donax, with the addition of ten or twelve grains of nitrate of potash, or an infusion of borage or tilia-flowers, with a few drops of the spiritus Mindereri. It would be well, at the same time, to act upon the digestive canal, by prescribing an ounce of phosphate of soda or sulphate of potassa, for which might be substituted Weiss's whey. Should there be inflammation or spasm of the breasts, they might be relieved by means of emollient or narcotic poultices. In case the child should be too weak to nurse freely, another nurse, whose milk flows more easily, ought to be chosen. Lastly, if the female prove to be entirely incapable of suckling, she should be subjected to more rigorous diet, and some mild purgatives ought to be prescribed.

We shall add, moreover, that retention of the milk is incurable when it depends upon vicious conformation of the nipple, such as its absence and its congenital or accidental imperforation. If this anomaly exists in both breasts at the same time, the woman ought always to give up the attempt to nurse the child. The obstruction of the galactophorous ducts is sometimes the result of flattening or induration of the nipple; in other cases, it may depend upon turgescence of the mammæ; it often coincides, moreover, with depression of the nipples, which may generally be remedied.

*Alterations of the milk.* Under the influence of certain circumstances, the milk is subject to different alterations in its colour, consistence and taste. For example, after nervous diseases, it becomes thin, like water, or of a greenish colour. It assumes a yellowish colour, in inflammations of the mammæ, a saltish and disagreeable taste in inflammatory diseases, and, lastly, a sour smell, after labour particularly. It contracts an odour like that of garlic in persons who eat that substance, a reddish colour in those who make use of madder, and, lastly, a bluish colour in women who work in indigo manufactures. To discover whether the consistence of the milk is too thin, or too thick, it is necessary merely to put a drop on one of the nails. If it adheres to it at first, and then spreads without running, it is in the natural condition; in the contrary case, it is not sufficiently consistent; while it is too thick, if the drop adheres to the nail without spreading. This happens generally in women who have too much embonpoint. In nervous women, the milk is thin, not very nutritious, and subject to slight alterations after the slightest vexation. To conclude, very young and very aged women have milk, of quality inferior to that of middle-aged persons.

Menstruation during lactation renders the milk thin and serous. Pregnancy renders it thick and unfit for the nourishment of children. Different kinds of food, amongst others salt meats, highly-seasoned dishes, mealy vegetables, salad and fruits, make the milk more abundant, but thinner; spirituous drinks, late hours, excessive sleep, and

all abundant excretions, diminish, on the contrary, the quantity of the fluid, the least alteration of which may have an unfavourable effect upon the child. It is, therefore, of the highest importance, on account of the latter, as soon as possible, to remove these faults, which destroy a large number of children in all classes of society.

The treatment of the different alterations ought to consist simply in the removal of the causes which have produced them, either by changing the diet of the nurse, or by curing the affections of the mammæ or the other diseases which give rise to them, or else by changing the nurse or by weaning the child when of suitable age.

## DISEASES OF THE MAMMÆ.

It sometimes happens, especially in a first lactation, that the nipple becomes the seat of excoriations and fissures that are generally extremely painful. This condition may be produced by the too frequent or violent sucking which the infant is forced to use, principally where the nipple is badly shaped, or, if the organ is in the normal state, by the acrid character of the saliva of the child, and by the force with which it draws.

This state of phlogosis of the nipple may often be prevented by keeping it clean and avoiding any exposure of it to the air and to the contact of the clothes, and especially of the corsets. If it has been impossible, in spite of these precautions, to prevent the development of the inflammation, it should be treated by means of emollient fomentations or poultices. When ulcerated cracks or fissures, which generally give rise to intolerable pain during suckling, make their appearance, we must combine, with the means we have proposed, frictions of cerate containing opium, and not permit the child to nurse until the nipples have been covered with shields made of caoutchouc, softened by plunging them into boiling water for a few minutes, and which should be sweetened with a little honey, after they are applied, in order to tempt the child to seize them.

Should the ulcerations on the nipples be of venereal character, that is to say, forming an ulcer with irregular, perpendicular edges, discharging an acrid, ichorous matter, and especially if the female present other syphilitic symptoms, recourse must be had to a general anti-venereal treatment, and, for the dressings, an equal portion of strong mercurial ointment might be added to the cerate, containing opium.

To conclude, depression or imperfect development of the nipple may be remedied, by having the breasts gently drawn, for some time before delivery, either by the woman herself, with the aid of a pipe, or by some other person. This result is attained still better by applying over each nipple the mouth of a phial previously warmed, and the mouth being wide and well rounded off. The application of this species of cup generally elongates the nipple and solicits the escape of a greater or less quantity of milk. The operation should be repeated two or three times a day, and care must be taken to wash the nipple each time, with sweetened wine and a little oil of

sweet almonds. It is proper to add that, in cases where the nipple, after delivery, seems short and small, merely because of the swelling and tension of the breast, it is necessary to suspend the lactation, and feed the child with the bottle, until the tumefaction has subsided to such a degree as to render the lactation practicable.

### OF INFLAMMATION OF THE MAMMÆ, OR THE WEED.

Inflammation of the breast is generally developed in lying-in women, or in those who have been recently delivered, and sometimes during lactation, or at the period of weaning. The affection, vulgarly denominated *weed*, may be the result either of engorgement of milk, the excretion of which occurs with difficulty, of the action of cold or excessive heat, of compression of the glands, of astringent applications, or violence done to the organs, or, again, of the acute pain and irritation which some women experience when the child seizes the nipple. The disease makes its appearance generally on the fourth or fifth day after delivery, and principally affects persons who do not wish to nurse, those who have a great flow of milk and suckle a feeble child, or who wean suddenly, or, lastly, those who have the nipples either too little or too large. Generally, the engorgement is seated in only one breast; but, in some cases, both are diseased at the same time, and sometimes the inflammation passes from one into the other.

The *symptoms* of the affection, which may also be produced by violent passions and any acute and sudden emotion, vary as the engorgement is simple or complicated with inflammation. In the former case, which is a milk congestion, merely, the disease is preceded by rigors in the back, followed by heat; but the fever does not generally last more than twenty-four hours, unless the engorgement pass into the inflammatory state. The breasts, which were soft and even, become hard, and unequal, but preserve their normal colour. Nevertheless, it sometimes happens that the disordered mamma becomes the seat of indurations, and the secretion of milk is always diminished or completely suspended, while the patient feels a more or less painful sensation, which affects the whole breast, and, in some cases, extends even to the arm-pits.

In the second condition, that is to say, when the engorgement becomes inflammatory, the mammæ, which gradually augment in size, and whose form varies according to the seat of the inflammation, become very painful and hard; are excessively hot and tense, and assume a reddish colour; the female experiences, at the same time, lancinating and pricking pains; fever, which is always proportioned to the engorgement, arises; the headache increases more and more, and is acute; the face flushes, the urine diminishes in quantity, and deposits a whitish sediment; the fecal matters exhale an acid odour; lastly, the inflamed breast acquires a considerable size and tension, which extend even to the arm-pits and to the neck; and sometimes the pains become so acute that cerebral symptoms and delirium are manifested.

The simple and mild engorgement terminates generally by resolution, whilst suppuration is the most common termination of the inflammatory and really phlegmonous engorgement. This affection, however, which sometimes passes into the state of induration and scirrhus, very often terminates by resolution, especially if the female clothes herself warmly, and follows a suitable treatment. This fortunate termination is preceded by rapid diminution and disappearance of the inflammatory symptoms, and by gradual softening of the affected gland, which, in some instances, is covered with small drops of perspiration. It is proper to remark, that there often occur critical evacuations, amongst others sweats, alvine dejections, and abundant and sedimentary discharges of urine.

We ascertain that suppuration is taking place by the continuation and progressive augmentation of the inflammatory symptoms. The diseased breast constantly increases in size, and becomes, throughout, the seat of throbbing pains and intolerable shootings. The patient has vague and irregular rigors, the skin becomes dry, the fever assumes a marked intermittent character, with evening exacerbation, and sometimes with delirium. At length the existence of fluctuation in some portion of the mamma leaves no doubt as to the formation of a purulent collection. We deem it proper to add, that when the engorgement terminates in induration, the progress of the disease is very slow, and the hardness augments by insensible degrees.

The prognosis of the engorgement under consideration is not unfavourable in itself; but the accidents which may accompany it are often troublesome, for there may result from it abscesses, fistulas and indurations, which dispose to new engorgements in other layers.

The preventive *treatment* of the disease consists in the early application of the child to the breasts, in order to empty them as soon as they are filled; and in removing, as far as possible, the causes which give rise to engorgement. The curative treatment, in the beginning of milk congestion, consists in the disengorgement of the breast by means of natural or artificial suckling, and by abstinence from very nourishing food or by rigorous diet, while, at the same time, we endeavour to increase the flow of the lochia, or to produce revulsion to the skin or alimentary canal. It is useful, also, to cover the breast with a lamb's, a rabbit's or a swan's skin, and to anoint it with a liniment of oil and liquid ammonia, in proper proportions, especially when there is little or no pain. We might also employ a poultice of flax-seed meal and water, containing soap, with the addition of ten or twelve grains of subcarbonate of potash; and frictions of oil and lime-water, or of two drachms of camphor dissolved in the yolk of an egg.

If the engorgement passes into an inflammatory condition, that is to say, if the breast becomes tense and extremely painful, with fever, heat, restlessness, cephalalgia, etc., prompt recourse should be had to bleeding from the arm, then to the application of leeches upon the breast, to the use of emollient and narcotic poultices, to rigorous diet, to sedative drinks, to rest in the horizontal position, to the employment of fumigations to the seat of the disorder, and, lastly, to that of

antispasmodics and sedatives, where the pains are very acute, and especially if the female be nervous. In case the disease should have appeared after a suppression of the lochia, the means proper to recall the discharge ought to be employed; cups should be applied to the groins, loins and thighs, and calomel in small doses, or some other mild purgatives, must be administered. It is proper to remark, that the female ought not to suckle with the diseased breast, until it has been somewhat disengorged.

If the engorgement, inclining towards resolution, diminishes, softens and becomes less painful, we should resort to emollient poultices, sprinkled with a few drops of solution of acetate of lead, or red wine, or with a solution of muriate of soda or carbonate of potash. We might also employ, towards the close of the inflammation, the pulp of the hemlock, chervil or parsley, applied very warm to the breasts. Liniments composed of a solution of carbonate of potash, of muriate of ammonia, or of soap in equal parts of water or milk, have also been used with advantage in these cases. Moreover, the effect of these means ought to be seconded by mild purgatives, by suitable regimen, and by careful movements of the arms, so as to bring the pectoral muscles into action, and thus hasten the resolution.

To conclude, when the engorgement passes into the state of suppuration, we ought to insist upon emollient topical applications, to promote the formation of pus, which may be much assisted by means of poultices of sorrel and hog's lard, or of lily-roots roasted in the ashes. When the purulent collection is fully formed and fluctuation distinct, we ought, if the abscess is small, to allow it to open of itself; but if the collection is extensive, and especially if the mammary gland is less affected than the cellular tissue, which may be known by the slight depth of the suppuration, it becomes necessary to give issue to the pus, by means of a vertical incision, made with a narrow lancet or bistoury, in the most dependent part of the tumour; then, after the purulent matter has been evacuated, a little plug of linen is to be introduced into the opening, to prevent it from closing too soon. The dressing should consist of a compress pierced with holes, and of charpie, and the mamma must be enveloped in an emollient poultice, until the heat, pain and induration of the tumour have disappeared. If the breast is very large, it is to be supported by a proper bandage, and we should make use of the revellents indicated above. If fistulas, discharging small quantities of serous pus, remain, and which heal up slowly, the breast is to be covered with emollient and revellent poultices, and it must be washed with soapy and alkaline solutions, made gradually stronger and stronger. It is proper to remark, moreover, that the engorgement which terminates by induration, ought to be treated by frictions, repeated several times daily, with some volatile liniment, and by mild purgatives; and, if the tumour is entirely indolent, by plasters of soap, of conium, or by that of vigo. It is always useful to keep the breasts very warm, by covering them with flannel, or with swan or rabbit-skin.

Our remarks upon the diseases peculiar to females are here brought to a conclusion. While it appears, from the sad picture we have

drawn, that the different affections to which they are subject are, for the most part, extremely dangerous, it also appears that it is possible, in most cases, to prevent and to cure them by an early resort to the different prophylactic and therapeutical agents, of which experience proves the efficacy and daily verifies the truth of the old adage:

*Principiis obsta; sero medecina paratur*
*Cum mala per longas invaluere moras.*
OVID.—REMEDIA AMORIS. V. 91 and 92.

## HYGIENE OF PREGNANT AND LYING-IN WOMEN.

While a pure atmosphere is of the highest importance to health at all periods of existence, it is during the pregnant state especially that it becomes indispensable. Hippocrates, Baillou, Bartholin, Stoll, Lepecq-de-la-Clôture, and several other observers, have remarked the bad effects of a damp or too dry an atmosphere, upon pregnant women, and assert that it predisposes to abortions and to premature labours. They ought, therefore, as far as possible, to breathe an atmosphere which is pure and exempt from all extremes of cold or heat, dryness or humidity.

Their clothing should be loose, and so arranged as to avoid all pressure upon the breasts, chest, abdomen and stomach. Pressure upon these organs may interfere with the growth of the mammæ and the development of the nipples; it may augment the embarrassment of the respiration, prevent the enlargement of the uterus and its ascent in the abdomen; and, lastly, become a cause of abortion, or of displacement of the gestative organ, as has been remarked by White and Doëring. Pregnant women should especially avoid the use of corsets with busks or whalebones, which are very hurtful, while the pressure which they exert from above downwards acts upon the uterus, forces it to develop itself in a dependent situation, and becomes a powerful cause of prolapsus uteri, and, according to some authors, a cause of deformity of the fœtus, even. They ought to wear, therefore, elastic and very large corsets only; for which should be substituted, after the fifth month, an equally elastic binder, which, embracing the abdomen in every direction, maintains the uterus in a normal position, and, as far as possible, prevents the wrinkles and cracks which are generally the results of pregnancy. During winter, pregnant women ought to take care to wear flannel drawers, in order to escape the action of the cold upon the thighs and sexual organs, which are the more exposed to it because of the prominence of the abdomen, which shortens the petticoats and pushes them forwards. They ought to endeavour likewise to protect the mammæ, the shoulders and the superior extremities, from cold. Inattention to this precept has sometimes occasioned very extensive inflammation of the breasts, followed by abscesses, which has not generally been cured until after the delivery. Circular compression of the inferior extremities is no less dangerous, especially towards the latter months of the gestation, for, by retarding the flow of the

fluids, they produce œdematous engorgements and varicose dilatations of the inferior extremities.

The use of warm baths, which were always proscribed by the ancients, in pregnant women, is nevertheless very useful. As they promote the cutaneous perspiration, relax the tissues and cleanse the skin, they are suitable for primiparous women, and especially for those of advanced age, whose soft parts are hard and resisting, and whose uterine and abdominal parietes are distended with difficulty: they are prescribed also for the purpose of relaxing the symphyses of the pelvis, of softening the external parts of generation, of preventing lacerations, and to facilitate labour. The use of baths is suitable also for nervous and irritable women, who are very subject to colics and convulsions; they are injurious in those who have much embonpoint, in those of lymphatic temperament, and who are subject to œdema and hæmorrhages. Persons of the latter description should make use of them only for purposes of cleanliness, therefore, and should remain in them as short a time as possible. The best time for the employment of baths is at the commencement and at the end of the pregnancy; about the first month, in order to allay the spasm and excitation of the uterus, and in the last, in order to dispose the genital organs to the distension which they are about to undergo. If we prescribe, or if we consent to the use of baths by plethoric women, it will be most prudent to precede their employment by a bleeding at the arm, performed some days beforehand. In some cases, cold river-baths may be proper; but the women ought to be careful not to expose the abdominal parietes against the current of the water, which, in that position, would act like a douche. Foot-baths are generally forbidden; nevertheless, they ought to be allowed for the purposes of cleanliness, with the precaution, however, of keeping the feet in the water only so long as is strictly necessary to cleanse them.

Bleeding, likewise, ought to be avoided, unless some accident happens, and unless called for by some particular indication. It becomes necessary, on the contrary, to recur to its employment at all periods of pregnancy, in plethoric women, in whom the pulse is strong, full and accelerated, and who suffer from insomnia, from excessive agitation, from cephalalgia, or from nasal, pulmonary or uterine hæmorrhages. Bleeding at the arm ought always to be preferred to bleeding from the foot, although the latter, in the greater number of cases, is not followed by any accidents.

The derangements of the digestive functions and the state of sanguine plethora, which are the general results of pregnancy, sufficiently indicate that pregnant women ought, especially during the early months, make use only of light food, containing but little nutritious matter, of easy digestion, and selected chiefly from amongst the vegetables. Nevertheless, towards the middle of the gestation, the period at which the appetite reappears and the digestive functions are generally re-established, it becomes proper to relax the severity of the regimen, and allow of more food at each repast; with the precaution, however, of renewing the latter often enough to sup-

ply sufficient nourishment, without overloading the stomach. The custom of making pregnant women eat *for two*, as it is vulgarly expressed, is the more pernicious, because it occasions a super-excitation of the digestive organs, which is generally followed by more or less obstinate vomiting, colic or diarrhœa. We must remark, however, that the tastes and desires of the patient should be respected, provided they do not concern articles evidently injurious. Though it is wrong to yield to all their caprices of appetite, it is also wrong to resist desires which often persist in spite of them, and which are sometimes the indications of nature itself. It is proper to remark, moreover, that the excessive use of warm drinks may be hurtful, by debilitating and relaxing the stomach; and that the abuse of fermented drinks, of liqueurs, of coffee and tea, and of irritating condiments, is equally pernicious, by increasing the already too great excitation of pregnant females, from which may result convulsions, uterine hæmorrhages and abortions. The use of iced drinks, which is often one of the best means of allaying gastralgia and vomiting, may also become a cause of abortion; examples of which are reported by Mauriceau and other authors.

In some women, we find disorders of the urinary secretion and intestinal excretions. Emollient enemata will be useful to calm not only intestinal and vesical irritations, but also to facilitate digestion, to prevent and overcome vertigo and cerebral congestions, and even to aid, in the primipara, the dilatation of the genital parts, at the moment of delivery. Nevertheless, their habitual use should be restricted to the well-ascertained cases that require them; for they may lead to constipation and intestinal torpor, and an abnormal relaxation of the genital organs. One ought especially to be very circumspect as to the use of purgative injections, which, in consequence of the relations existing betwixt the rectum and the womb, may bring on contractions of that organ, and thus give rise to miscarriage. As a general rule, purgatives ought to be rejected upon the same considerations; and the conduct of those practitioners who prescribe what are called precautionary purgatives, cannot be too much condemned. The use of emetics ought likewise to be proscribed; and notwithstanding they are often taken, without effect, by women who desire to make a criminal use of them, still they should never be resorted to except in cases of absolute necessity.

Exercise, which ought never to be carried to the extent of fatigue, is very useful for pregnant women; it maintains a regular action of all the functions, prevents the attack of many diseases, and is often a means of cure. The most suitable mode of exercising for such persons is walking, both morning and evening, during the fine weather, and at noon, during the winter. The length of the walks should be calculated agreeably to the state of the strength and habits of the woman; yet there are women who cannot go out their full time except on the condition of keeping perfectly still, and in a horizontal posture. Riding on horseback, or in a carriage, and dancing, expose her to shocks that are the frequent causes of hæmorrhages and abortion. Moreover, women in a state of pregnancy ought to enjoy

protracted sleep, which, in that state, they require more than at any other period of their lives. We ought, therefore, to treat the case of insomnia and agitation to which they are liable, especially in the last months of pregnancy, by baths. exercise and blood-letting, and by some gentle narcotic, such as distilled lettuce-water and orange-flower water, the syrup of thridace, or with certain of the potions into which these articles enter as their basis, and to which may be added some drops of sulphuric ether. The narcotics, properly so called, especially the opiates, do not succeed so well.

The exalted state of the sensibility in pregnant women, rendering their sensations more acute, and their emotions more energetic, they ought, with equal care, to shun the occasions of violent impressions upon the physical and upon the moral constitution; and all objects capable of affecting the imagination should be cautiously kept out of their way; such as tragical spectacles, the sight of mutilated people, of the lame, and of all persons affected with loathsome diseases. As they are, in general, persuaded, however erroneously, that the sight of such an object may give rise to a similar deformity in the child in utero, they are violently agitated whenever they meet with it. Besides, the records of disease are full of cases of serious disorders, as convulsions, hæmorrhages and abortions, brought on by the sight of some repulsive object, by fright, by a paroxysm of anger, a fit of joy, of hate, of jealousy, or other acute emotion of the soul. From among the numerous histories of this sort, we shall quote one only, from the writings of Sue. It is the case of a woman who was so much affected by the prediction of a gipsy, who foretold that she would die, that she made her will, and died in the eighth month. It is ridiculous to believe in the injurious effects of longings and desires, and the prejudices which pretend that the woman's imagination may exercise a powerful influence upon her child, and that when she longs for any thing, or is powerfully affected by any object, there is established a deformity resembling the object of her fright, upon that part of the infant's body that corresponds to the part of her own surface which she happens first to touch with her finger, after experiencing the sensation. However, as these various causes may produce violent agitation in credulous females, and exert an injurious influence upon the fœtus, it is requisite to pay great attention to the state of her mind, so that she may be treated with gentleness and respect, and especially with indulgence as to her caprices and oddities, which are for the most part involuntary. As abortion is often the consequence of the voluptuous and tumultuous ecstasies of the venereal indulgence during pregnancy, the conjugal embrace ought to be interdicted during the early months, particularly to newly-married women, and to those who have already been subject to abortion. In case, however, of excessive desire in both parties, there might be more inconvenience in resisting, than danger in gratifying it, with moderation. As, during the last six months of gestation, the danger is much less than in the first three months, the indulgence of the habit may be enjoyed with less restraint.

## HYGIENE OF THE LYING-IN WOMAN.

The term of pregnancy having arrived, it is important, as soon as the first signs of labour are manifest, to free the woman from such parts of her dress as might prove troublesome. and to order her to take one or two small emollient injections, with a view to empty the large intestines and the rectum; the matters of which, being accumulated in their cavities, might render the labour more difficult. It would be likewise useful to introduce the catheter, should the pressure exerted by the womb on the neck of the bladder, hinder the patient from discharging the urine. Without trying to prevent her from crying out with the pains, it is proper to advise her to save her strength; while, under some pretext, we should get rid of all persons who might tease her by their mere presence,—even her mother, her sister, or husband.

If, notwithstanding the frequency and strength of the pains, the dilatation of the womb progresses very slowly, the patient may be bled, particularly if she be of a strong constitution, and complains of headache and a sense of heaviness of the limbs. As a means of relief for the rigidity of the genital organs, recourse may be had to emollient tepid fumigations to the parts, or to the use of baths and of mucilaginous injections made of marsh-mallows or flax-seed tea, or to the application of some unctuous material to these parts, and, above all, to belladonna ointment. Where the labour is suspended, and the pains become languid, the spurred rye ought to be administered, yet not until we feel assured that the mouth of the womb is sufficiently dilated. On the other hand, we ought always to reject as hurtful and dangerous, all purgative emetics, irritating injections, and sternutatories, prescribed with a view to arouse the pains and augment the activity of the labour. In fine, when the neck is sufficiently open, the bag of waters may be ruptured by gently pressing the finger-nail against the protruding membranes, or by making use of the point of a pair of scissors, guided by the index-finger.

To avoid, as far as possible, the laceration of the perineum, when that part is distended by the head of the child, which has reached the vulva, we ought not only to support the perineum, by pressing the palm of the hand against the perineum, but we should direct the woman to refrain from bearing-down efforts, and to separate her thighs and not flex them too much on the pelvis, so that the parts being put less upon the stretch, may mould themselves better upon the head of the child.

[I must caution the inexperienced practitioner not to incur the hazard of rupturing the membranes in primiparous women, except under some well-considered necessity for that act. It is difficult, in such persons, to foretell the precise amount of resistance to be encountered by the child before it can escape from the organs; and an early rupture of the ovum is not very rarely followed by increased delay in the delivery of the head,—but, as the child is thenceforth subjected to the unmitigated pressure of the womb,

which is irritated by the contact of the child's body, from around which the waters have thus been removed, the woman is exposed not only to the mishap of giving birth to a still-born child, but she runs some risk of being afterwards subjected to a forceps or an embryulcia operation for her delivery. I may make the additional remark, that the reasons for supporting the perineum are the following:—Professor Carus's curve consists in an arc of a circle whose radius is two and a half inches, and which may be described as follows:—Cut a pelvis in two, vertically, from front to rear, with a saw. Set one leg of a pair of compasses upon the posterior edge of the bisected symphysis pubis; open the other leg two and a half or two and three-quarter inches; then describe a circle through the pelvis, from top to bottom, and carry the curve up in front of the pelvis. This curve of Professor Carus is the curved axis of the pelvis,—and the centre of the child's encephalon, in the act of being born, moves coincidently with this curved line. Now, when the accoucheur supports the perineum, he does so with no other view than to compel the head to move coincidently with this curve, or, in other words, to prevent it from descending at a tangent to the arc; in doing which, it must carry away the perineum or rupture it. I do not think that when the womb is thrusting the head downwards, we ought to prevent the descent of the head; for, in so doing, we oppose an obstacle so great that we expose the patient to the risk of laceration of the womb or vagina, or both. If we compel the head to move along, in the direction of Carus's curve, and exhort the patient not to bear down, we do all that it behoves us to do for her interest and safety in the premises.—M.]

When the child is born, we should next attend to the delivery of the after-birth, which is generally effected by a few pains, and which may be facilitated by taking hold of the umbilical cord and gently pulling it downwards. After this operation, which the accoucheur commonly need not attend to until after he shall have given some attention to the child, the vulva must be cleansed, as well as all the parts that are soiled with the discharges, either by washing them with pure warm water, or a mixture of wine and water, where the parts appear much relaxed.

The woman may with propriety be left upon her cot, as long as fluid blood continues freely to flow from the organs; but we should not too long delay putting her into the bed that she is to use for the rest of her lying-in, unless some hæmorrhage, convulsion or other accident, the consequence of extreme weakness, should intervene. In such case, we ought to wait awhile, to give time to the functions to recover their natural rate; yet, be the woman ever so well, she must be forbidden to rise and walk to her bed, for, by doing so, she exposes herself to the danger of having some displacement of the womb, and to a thousand other accidents; it is well, even, to bring the two beds side by side, so that she can be made to slide from one into the other, almost without moving her body, by pulling the sheet on which she laid to be delivered.

Previously to transferring her to her bed, we ought always to direct the nurse to put clean linen on the patient, taking care that it be well aired first and moderately warmed, and never follow the absurd prejudice that pretends that a woman ought not to change her linen until the seventh day or the ninth day after her delivery.

When the patient is comfortably put to bed, which, in cool or damp weather, ought to be warmed, her breasts are to be covered with a soft napkin or muslin handkerchief, folded in eight; but the breasts ought never to be compressed, nor kept immoderately warm, nor ought we to allow any repercussive or astringent poultice, with a view to hinder the *coming of the milk.* The same rule holds as to the binder for the belly, which ought to be lightly applied, so as to be merely a contentive bandage. It commonly consists of a napkin, folded into a triangle, the point being directed towards the vulva; the bandage to cover the hypogastrium, is a napkin folded in three, lengthwise, and which is used as a body bandage, to pass round the abdomen, and comprehending the hips. To prevent this bandage from slipping, or becoming uncomfortable, it should be secured to straps passing over the shoulders, like a pair of suspenders. It should also be kept down by attaching to it the two ends of the *napkin*, to be used by the woman as her T bandage, with a view to receive the lochial discharges.

[Let me again caution the younger reader against M. C., with whom I cannot here agree. The napkin is to be used as a *receiver.* If it be too strongly pressed against the genital fissure, by the method indicated by our author, there is reason to fear that it may act as a tampon, and by preventing the escape of coagula, or of fluid blood, may give rise to a concealed hæmorrhage.—M.]

Inasmuch as when, speaking of milk-fever, of the lochia, and of inflammation of the mammæ, we treated of other cares required, as to the woman, we shall rest satisfied here, to prevent repetition, with saying that the woman ought to be in a large chamber, well ventilated, warmed in the winter season, but with the air renewed once or twice a day, by opening the windows, after carefully covering the patient and closing her curtains. A calm state of mind, and rest for the body, are indispensable. The ancients were so well convinced of the usefulness of this precept, that, at Rome, even the magistrate had no right to enter the house of a lying-in woman, to execute a sentence. Juvenal says, that in order that all the citizens might respect this asylum, it was necessary merely to suspend a garland at the door.

*Foribus suspende coronas,*
*Jam pater es . . . . . .*

The visits of friends, neighbours and acquaintances, ceremonious visits, and calls of relatives, are among the frequent causes to which may be attributed a variety of diseases of the lying-in woman, that lead to the most serious consequences.

The time that a woman ought to remain in bed, is necessarily very

variable; and the fixed term of nine days, adopted by the vulgar, can only be so as a mean and general term. In some instances, six days are sufficient; whereas, in other cases, fifteen, and even twenty days, are indispensable, particularly where the symphyses have been strained, where the womb is disposed to prolapsion, and where the general health is precarious. Furthermore, the first trial of sitting up should not be protracted beyond half an hour, or an hour at most, upon a couch or sofa; but women ought never to consecrate their first going out to a visit to the church, to perform what is called their *relevailles*. The cold damp air of a church, the kneeling posture in which they place themselves, expose them to dangerous attacks. Enlightened and true religion would forbid such imprudences, and ordains rather, that previously to proceeding to the church to return thanks to God for her recovery, the lying-in woman should first recover her strength at home, and go out only during the fine weather, and not until she is satisfied she can venture into the air without hazard. There is another custom that requires the strict care of the physician, to wit, the baptismal feast, at which the lying-in woman ought not to be present, unless it take place after the tenth day, and even then she should take great care lest the days of rejoicing should be followed by days of mourning.

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